-4310-241-15

TM 5-4310-241-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, FIELD,
AND DEPOT MAINTENANCE MANUAL

COMPRESSOR, RECIPROCATING: AIR; 5 CFM; 175 PSI; HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) LESS ENGINE

FSN 4310-861-9820

RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1)

FSN 4310-861-9823

This copy is a reprint which includes current pages from Changes 1 through 4.

HEADQUARTERS, DEPARTMENT OF THE ARMY

JANUARY 1963

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SAFETY PRECAUTIONS

Before Operation

When handling gasoline, always provide a metal-to-metal contact between the container and tank. This will prevent a spark from being generated as gasoline flows over the metallic surface.

When operating a compressor with an electric motor, de-energize the input power leads at their source before changing connections or performing maintenance on the unit. The voltage generated by the incoming power source can cause death by electrocution.

Never attempt to service any of the air compressor components until the unit is relieved of all pressure.

Do not operate the air compressor in an enclosed area unless the exhaust gases are piped to the outside. The exhaust gases contain carbon monoxide, which is a colorless, odorless, and poisonous gas.

During Operation

When operating a compressor with an electric motor, de-energize the input power leads at their source before changing connections or performing maintenance on the unit. The voltage generated by the incoming power source can cause death by electrocution.

Never attempt to service any of the air compressor components until the unit is relived of all pressure.

After Operation

When handling gasoline, always provide a metal-to-metal contact between the container and tank. This will prevent a spark from being generated as gasoline flows over the metallic surfaces.

When operating a compressor with an electric motor, de-energize the input power leads at the source before changing connections or performing maintenance on the unit. The voltage generated by the incoming power source can cause death by electrocution.

Never attempt to service any of the air compressor components until the unit is relieved of all air pressure.

Be extremely careful when using a carbon tetrachloride fire extinguisher in an inclosed area. A poisonous gas is generated by the contact of carbon tetrachloride with a heated metallic surface. Provide adequate ventilation before entering an enclosed area where carbon tetrachloride has been used.

Operator, Organizational, Field and Depot Maintenance Manual

COMPRESSOR, RECIPROCATING: AIR; 5 CFM; 175 PSI, HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) LESS ENGINE
FSN 4310-861-9820
RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1)
FSN 4310-861-9823
RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-2)
FSN 4310-088-1855

CHANGE
No. 1

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *5 February 1964*

TM 5-4310-241-15, 9 January 1963, is changed as follows:

Cover page and page 1. The title is changed to read as above.

Page 1, Under CHAPTER 4. Add Section III. Electric motor.

Page 2, paragraph 1*a*, iine 4. After "OEH-34-60-ENG-1" add and OEH-34-60-ENG-2.

Paragraph 1.

c. (Superseded) The direct reporting of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Technical Manual Parts Lists or Supply Manual 7, 8, or 9) will be used for reporting these improvements. This form will be completed in triplicate using pencil, pen, or typewriter. The original and one copy will be forwarded direct to the Commanding Officer, U. S. Army Mobility Support Center, ATTN: SMOMS-MM, P. O. Box 119, Columbus, Ohio 43216. One information copy will be forwarded to the individual's immediate supervisor, (e.g., officer, noncommissioned officer, supervisor, etc.).

Paragraph 1.

d. (Superseded) Report all equipment improvement recommendations as prescribed by TM 38-750.

Page 5, paragraph 3*a*, line 2 and 3. After "Model OEH-34-60-ENG-1," Add and Model OEH-34-60-ENG-2.

Paragraph 3.

c. (Superseded) *Electric Motors.* The electric motor (1, fig. 3) on model OEH-34-60-ENG-1 is three-phase, 2-hp, 60-cycle, ac, 208/416 v (volt). The electric motor (7, fig. 3.1) on the model OEH-34-60-ENG-2 is single-phase, 2-hp, 60-cycle, ac, 115/230 v.

Paragraph 3*d*, line 5. After "OEH-34-60-ENG-1" Add and OEH-34-60-ENG-2.

Paragraph 4.

a. (Superseded) The Corps of Engineers

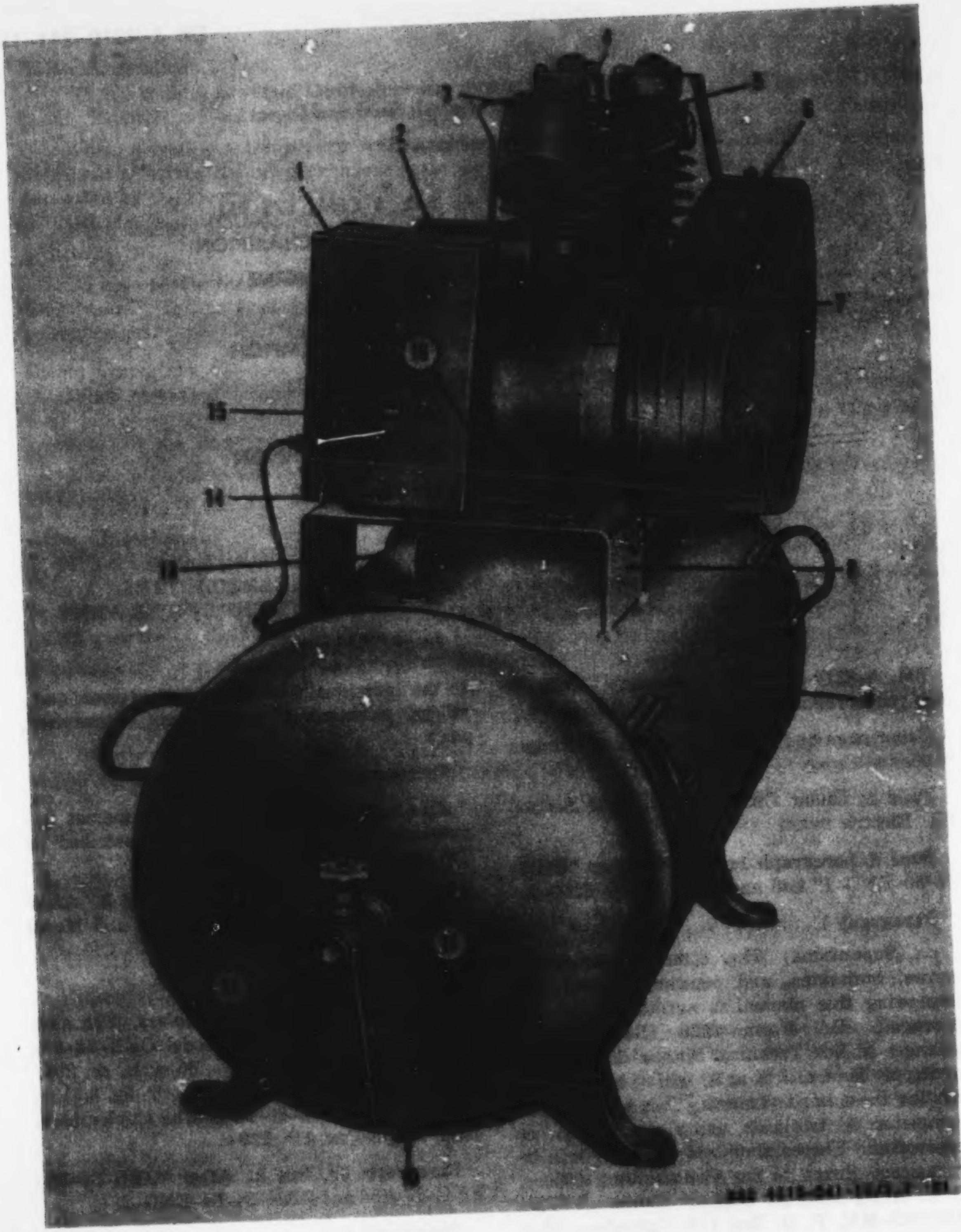


Figure 3.1. (Added) *Air compressor, model OEH–34–60–ENG–2, front left side view.*

1 Magnetic starter
2 Capacitor
3 Intake air cleaner
4 Intercooler relief valve
5 Manifold
6 V-belt guard
7 Electric motor
8 Air receiver tank platform
9 Air receiver tank
10 Draincock
11 Nipple
12 Globe valve
13 Pressure gage
14 Screw
15 Reset button
16 Switch, off-on

Figure 3.1—Continued.

identification plate, model OEH–34–60–ENG–1, model OEH–34–60–ENG–2, and model LP–512–ENG, specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and the Federal stock number of the air compressor. This is mounted at the rear on the top of the air receiver tank platform between the compressor and the electric motor on model OEH–34–60–ENG–2. It is mounted on the right side of the air receiver tank on model OEH–34–60–ENG–1. It is mounted on the front of the chassis adjacent to the left wheel on model LP–512–ENG.

5. Difference in Models

(Superseded)

This manual covers the three Champion Air Compressors, Model OEH–34–60–ENG–1, Model OEH–34–60–ENG–2, and Model LP–512–ENG. Model OEH–34–60–ENG–1 is equipped with a three-phase, 60-cycle, electric motor. Model OEH–34–60–ENG–2 is equipped with a single-phase, 60-cycle, electric motor. Model LP–512–ENG is driven by a four-cycle, single-cylinder, air-cooled gasoline engine. Paragraph 6*a*, line 3. After "OEH–34–60–ENG–1" add and OEH–34–60–ENG–2.

After paragraph 6*b* add:

(1) *Model OEH–34–60–ENG–1.*

(2) (Added) *Model OEH–34–60–ENG–2.*

Manufacturer	Marathon
Model	184–CSR–29–BB
Type	CSR–LE
Cycle	60
Phase	Single
Horsepower	2
Volts	115/230
Duty	Continuous
Rated speed	1725
Amperes:	
At 115 volts	24
At 230 volts	12
Frame	184
Temperature rise	40°
Rotation	CW

Paragraph 6*c*, line 6. After "(OEH–34–60–ENG–1)" Add and OEH–34–60–ENG–2.

Paragraph 6.

f. (Superseded) *Magnetic Starter Switch Assembly.*

(1) *Model OEH–34–60–ENG–1.*

Manufacturer	Federal Pacific Electric
Style	4204AABJ201–51
Maximum pressure	250 psi
Minimum differential	30 psi

(2) *Model OEH–34–60–ENG–2.*

Manufacturer	Federal Pacific Electric
Style	4204AA12J201–26
Maximum pressure	250 psi
Minimum differential	30 psi

Page 8, paragraph 6*h*(1). After "*Model OEH–34–60–ENG–1*" add *and OEH–34–60–ENG–2.*

Paragraph 6*i*(1). After "*Model OEH–34–60–ENG–1*" add *and OEH–34–60–ENG–2.*

Paragraph 6*j*(1). After "*Model OEH–34–60–ENG–1*" add *and OEH–34–60–ENG–2.*

Page 11, figure 6. After "MODEL OEH–34–60–ENG–1" add AND OEH–34–60–ENG–2.

Page 13, paragraph 11*a*. After "*Model OEH–34–60–ENG–1*" add *and OEH–34–60–ENG–2.*

Paragraph 11*a*.

(12) (Added) Inspect the motor capacitor (2, fig. 3.1) for damaged wiring, loose connections and insecure mounting.

(13) (Added) Inspect the motor on-off switch (16, fig. 3.1) for loose connections, damaged wiring and insecure mounting.

Page 15, paragraph 12*a*. After "*Model OEH–34–60–ENG–1*" add *and OEH–34–60–ENG–2.*

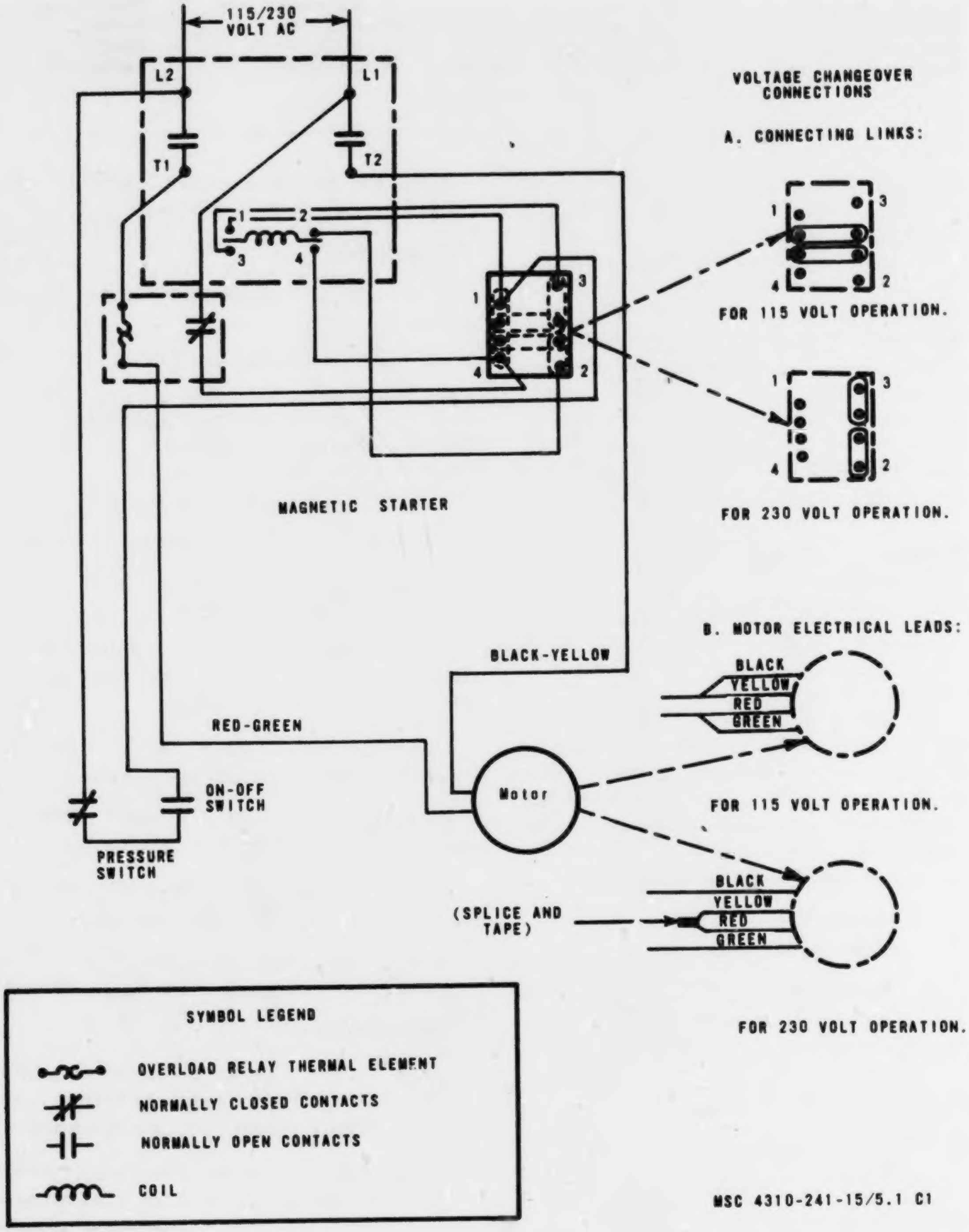

115/230 VOLT AC
L2
L1
T1
T2
1
2
3
4
1
3
4
2
VOLTAGE CHANGEOVER CONNECTIONS
A. CONNECTING LINKS:
1
3
4
2
FOR 115 VOLT OPERATION.
1
3
4
2
FOR 230 VOLT OPERATION.
MAGNETIC STARTER
B. MOTOR ELECTRICAL LEADS:
BLACK-YELLOW
BLACK
YELLOW
RED
GREEN
RED-GREEN
Motor
FOR 115 VOLT OPERATION.
ON-OFF SWITCH
PRESSURE SWITCH
BLACK
YELLOW
(SPLICE AND TAPE)
RED
GREEN
FOR 230 VOLT OPERATION.
SYMBOL LEGEND
OVERLOAD RELAY THERMAL ELEMENT
NORMALLY CLOSED CONTACTS
NORMALLY OPEN CONTACTS
COIL
MSC 4310-241-15/5.1 C1

Figure 5.1 (Added) *Wiring diagram* (*Model OEH-34-60-ENG-2*).

Paragraph 13.

c. (Added) *Electric Motor and Magnetic Starter Wiring for 115 Volts (Model OEH–34–60–ENG–2).*

(1) Remove the cover on the motor conduit box (7, fig. 3.1).

(2) Position the links on the screws as shown in A, fig. 9.1.

(3) Install the cover on the motor conduit box (7, fig. 3.1).

(4) Remove the cover on the magnetic starter, install the relay heater (13, C, fig. 9.1) marked F 28, position the

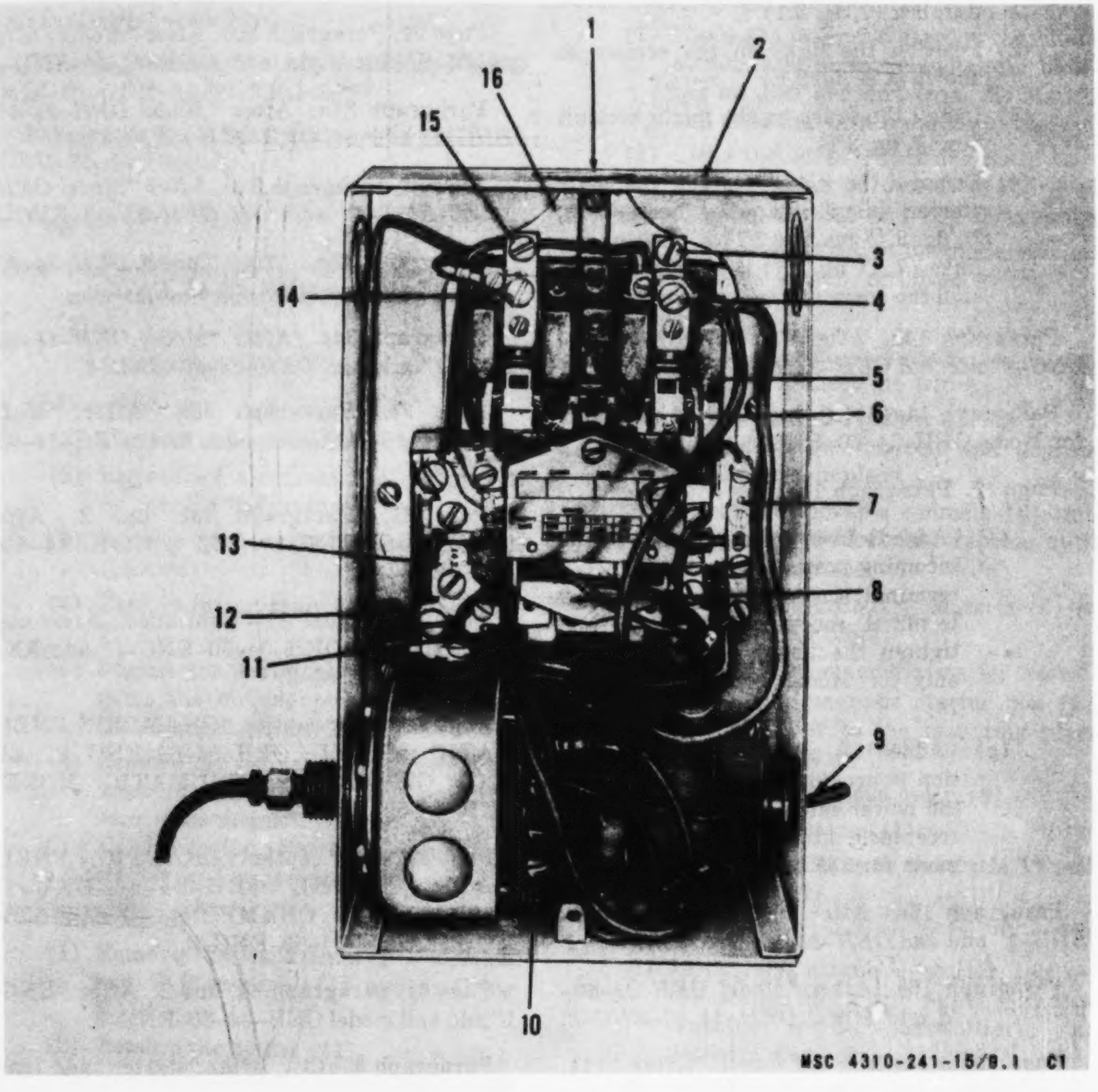


Figure 9.1 (Added) *Electric motor wiring and magnetic starter (Model OEH–34–60–ENG–2).*

1	Plug, knock out
2	Starter box
3	L 2 terminal screw
4	T 2 terminal screw
5	Stationary contact
6	Movable contact
7	Link (2 rqr)
8	Coil retainer spring
9	Switch, off-on
10	Pressure switch
11	Overload relay
12	Terminal screw
13	Heater, F–14.2
14	T 1 terminal screw
15	L 1 terminal screw
16	Mounting plate

links (7, C, fig. 9.1) as shown, and install the cover on the magnetic starter.

d. (Added) *Electric Motor and Magnetic Starter Wiring for 230 Volts (Model OEH-34-60-ENG-2).*

(1) Remove the cover on the motor conduit box (7, fig. 3.1).

(2) Position the links on the screws as shown in B, fig. 9.1.

(3) Install the cover on the motor conduit box (7, fig. 3.1).

(4) Remove the cover on the magnetic starter, install the relay heater (13, D, fig. 9.1) marked F14.2, position the links (7, D, fig. 9.1) as shown, and install the cover on the magnetic starter.

Paragraph 14*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Paragraph 14*a*(5)(*c*), line 6. Add used only for Model OEH-34-60-ENG-1.

Page 17. Paragraph 14*a*(5).

(*f*) (Added) Insert the bare ends of the incoming power source wires in L 1 terminal screw (15, fig. 9.1), L 2 terminal screw (3, fig. 9.1) and tighten the terminal screws (used only for Model OEH-34-60-ENG-2).

(*g*) (Added) A plug-in type of connection is provided at the other end of the power cable, and the permanent receptacle at the power source is made for 115 or 230 volts.

Paragraph 15*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Paragraph 16*a*. After *"Model OEH-34-60-ENG-1"* Add *and Model OEH-34-60-ENG-2.*

Page 19, paragraph 23, line 1. After "(11, fig. 3)" add or (13, 3.1).

Paragraph 25, line 1. After "(14, fig. 3)" Add or (15, fig. 3.1).

Paragraph 25, line 2. Delete "(13)" and substitute: (13, fig. 3) or (1, fig. 3.1).

Page 21, paragraph 27*a*. After *"Model OEH-34-60-ENG-1"* Add *and OEH-34-60-ENG-2.*

Paragraph 29*a*, lines 5 and 6. After "Model OEH-34-60-ENG-1" add and OEH-34-60-ENG-2.

Paragraph 29*b*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Page 22. Paragraph 30*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Paragraph 31*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Page 23, paragraph 32*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Paragraph 33*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Paragraph 34*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Page 24. Paragraph 35*a*. After *"Model OEH-34-60-ENG-1"* add *and OEH-34-60-ENG-2.*

Page 25. Paragraph 38*b*, line 2. After "OEH-34-60-ENG-1" add , OEH-34-60-ENG-2.

Page 27. Figure 11—Continued. After caption, "MODEL OEH-34-60-ENG-1" add AND OEH-34-60-ENG-2.

Page 32. After caption "CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1" add AND CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-2.

Page 36. After caption "CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1" (Added) AND CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-2.

Page 41, paragraph 64, line 2. After "ENG-1" add and model OEH-34-60-ENG-2.

Paragraph 65*a*(3). After "starter" add (par. 70).

Paragraph 65*a*(4), lines 3 and 4. After "(1, fig. 3)" (add or (7, fig. 3.1).

Paragraph 65*a*(4), line 5. Delete "(6)" and substitute (6, fig. 3) or (8, fig. 3.1).

Paragraph 65*b*(1), line 1. Delete "(1)" and substitute (1, fig. 3) or (7, fig. 3.1).

Paragraph 65*b*(1), line 2. Delete "(6)" and substitute (6, fig. 3) or (8, fig. 3.1).

Paragraph 65*b*(2). After "starter" add (par. 70).

Page 44, paragraph 67. After heading add AND (OEH-34-60-ENG-2).

Page 45, Section V. After title add AND MODEL OEH-34-60-ENG-2.

Paragraph 70. After heading Add (MODEL OEH-34-60-ENG-1).

Page 46.

70.1 Magnetic Starter With Pressure Switch and Cover (Model OEH-34-60-ENG-2)

(Added)

a. Removal.

(1) Turn off the outside power source.

(2) Release all air from the compressor by opening the draincock.

(3) Remove the magnetic starter cover (par. 14).

(4) Remove the pressure switch tube (par. 71).

(5) Loosen the terminal screws and remove the outside power wires from the magnetic starter box.

(6) Remove the two machine screws, lockwashers, flat washers, and nuts that secure the magnetic starter box to the electric motor. Remove the magnetic starter and pressure switch.

b. Disassembly.

(1) Remove the leads from T 1 terminal and T 2 terminal (12 and 4, C, fig. 9.1).

(2) Remove the heater (11).

(3) Remove the overload relay (9).

(4) Remove the screws that secure the mounting plate (14) to the starter box (2) and remove the starter assembly.

(5) Remove the stationary contacts (5).

(6) To remove the movable contacts (6), lift the contact upward and pull the contact free of the block.

(7) To remove the coil retainer spring (7), lift upward and pull it free.

(8) Remove the wires and the off-on switch.

c. Cleaning and Inspection.

(1) Clean the magnetic starter, the off-on switch, and pressure switch by blowing all dust and dirt from the starter and switches with compressed air.

(2) Clean the wires with a dry cloth.

(3) Clean all other parts with an approved cleaning solvent and dry thoroughly.

(4) Replace a defective magnetic starter, pressure switch, or off-on switch.

d. Reassembly.

(1) Install the off-on switch (15, C, fig. 9.1) and connect the wires.

(2) Insert the coil retainer spring (7) in position below the coil and depress until it locks in place.

(3) Insert the movable contacts (6) into the container block and depress until they lock in place.

(4) Secure the stationary contacts (5) to the contactor block.

(5) Position the magnetic starter assembly in the magnetic starter box (2) and secure it to the mounting plate (14) in the box.

(6) Install the overload relay (9).

(7) Install the heater (11).

(8) Connect the leads to terminals T1 and T2 (12 and 4).

e. Installation.

(1) Install the magnetic starter box on the electric motor and secure with two machine screws, lockwashers, flat washers, and nuts.

(2) Install the outside power source wires in the magnetic starter box.

(3) Install the pressure switch tube (par. 71).

(4) Install the magnetic starter cover (par. 14).

Page 46, paragraph 71. After heading add (MODEL OEH-34-60-ENG-1 AND OEH-34-60-ENG-2).

Paragraph 72. After heading "(USED ON MODEL OEH-34-60-ENG-1" add AND MODEL OEH-34-60-ENG-2).

Page 51, paragraph 83*a*. After "*(Model OEH-34-60-ENG-1*" (Added) *and Model OEH-34-60-ENG-2)*.

Page 52, paragraph 83*d*. After "*(Model OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Page 54, paragraph 88*a*(4)(*d*), line 3. After "ENG-1" add and Model OEH-34-60-ENG-2).

Paragraph 88*c*(1)(*c*), line 3. After "ENG-1" add and Model OEH-34-60-ENG-2).

Page 59. Paragraph 94*a*. After "*(Model OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Paragraph 94*e*. After "*(Model OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Paragraph 95. After heading "(USED ON MODEL OEH-34-60-ENG-1" add AND MODEL OEH-34-60-ENG-2).

Paragraph 96*a*. After "*(MODEL OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Paragraph 96*c*. After "*(Model OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Page 62, paragraph 104*b*. After "*(Model OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Paragraph 104*d*. After "*(Model OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-2)*.

Page 64, paragraph 109, line 2. After "34-60-ENG-1" add Model OEH-34-60-ENG-2.

Section III. ELECTRIC MOTORS
(Added)

112.1. Electric Motor (Model OEH-34-60-ENG-1)

a. Removal. Remove the electric motor (par. 65).

b. Disassembly.

(1) Remove the four nuts (4, fig. 26.1) from the four bolts (1) and remove the drive-end motor bracket (15), the baffle (16) and bearing (17) from the shaft (2).

(2) Remove the button (6), the other four nuts (4) from the bolts (1) and lift off the bearing end motor bracket (7) and baffle (9). Remove the four bolts (1). Remove the top grease plug (5) and the drain plug (8) from each bracket (7 and 15).

(3) Remove the loading spring (11) and bearing (12) from the shaft (2). Remove the two screws (14) from the box connector base (13) and remove the base from the frame and stator (10).

(4) Loosen the motor ventilating fan setscrew (19) and remove the fan (18). Remove the rotor assembly (3) from the frame and stator (10).

c. Cleaning, Inspection and Repair.

(1) Clean all parts with a clean cloth dampened with an approved cleaning solvent.

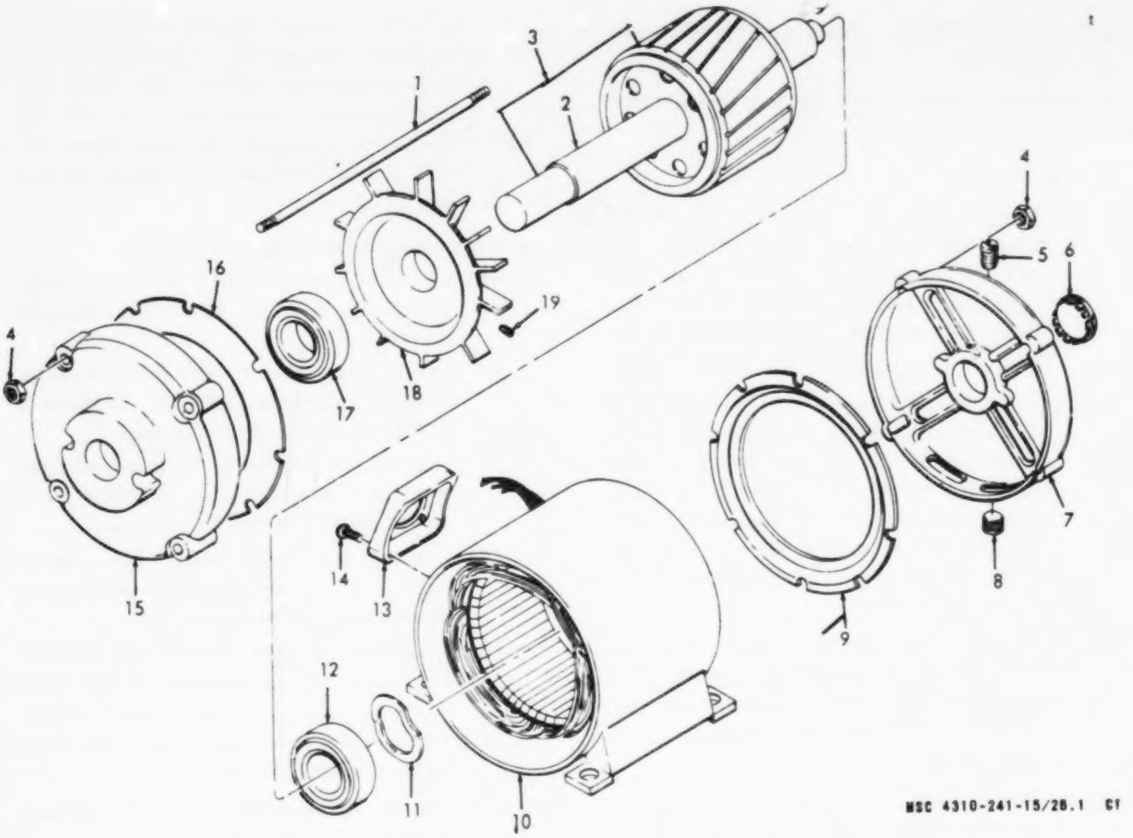
(2) Inspect the stator frame for cracks, breaks, or other defects. Replace a damaged or defective frame.

(3) Inspect the bearings for pits, scoring, wear, and out-of-round. Replace worn or defective bearings.

(4) Inspect the rotor shaft for cracks, wear, and misalignment. Replace a damaged or defective shaft.

(5) Inspect the rotor for cracks, breaks, and damaged laminations. Replace the rotor or stator if they are damaged. Replace the rotor if it does not meet test standards (*c* above).

(6) Inspect all threaded parts for damage. Replace as necessary.



MSC 4310-241-15/26.1 C1

1 Bolt, ¼-20 x 9⅝ in. (4 rqr)
2 Shaft, rotor
3 Rotor assembly
4 Nut, hex, ¼-20 (8 rqr)
5 Plug, top, grease, ⅛-27 (2 rqr)
6 Button, shaft end, 1 in., 12 prong
7 Bracket, bearing end
8 Plug, drain, ⅝-18 (2 rqr)
9 Baffle
10 Frame and stator assembly
11 Spring, loading
12 Bearing
13 Base, box connector
14 Screw, ¼-20 x ⅝ in. (2 rqr)
15 Bracket, drive-end
16 Baffle
17 Bearing
18 Fan, motor ventilating
19 Setscrew, motor ventilating fan, No. 10-32 x 3/16 in.

Figure 26.1. Electric motor, disassembly and reassembly.

d. Reassembly.

(1) Install the rotor assembly (3, fig. 26.1) in the frame and stator assembly (10). Place the motor ventilating fan (18) on the shaft (2) and secure with the setscrew (19).

(2) Locate the box connector base (13) on the frame and stator (10) and secure by installing the two screws (14).

(3) Install the bearing (12) and loading spring (11) on the shaft (2).

(4) Install a top grease plug (5) and a drain plug (8) in each bracket (7 and 15).

(5) Install the baffle (9), the four bolts (1), the bearing end bracket (7) and the four nuts (4).

Caution: **Use care to make certain the motor assembly is properly aligned with the frame and stator assembly before completing the assembly. Improper alignment can cause excessive wear and malfunction.**

(6) Install the bearing (17), the baffle (16), the drive end bracket (15) and the four nuts (4). Install the button (6) in the bearing end bracket.

e. Installation. Install the electric motor (par. 65).

112.2. Electric Motor (Model OEH–34–60–ENG–2)

a. Removal. Remove the electric motor (par. 65).

b. Disassembly.

(1) Remove the two screws (1, fig. 26.2) from the capacitor housing (2) and lift off the housing. Remove the two capacitor lead screws (3), from the leads (9) and the motor starting capacitor (4). Remove the capacitor.

(2) Remove the four nuts (15) from bolts (22) at the drive end of the motor Remove the drive end bracket (16) from the frame and stator (11). Lift the bearing (18) off the shaft (7). Loosen the setscrew (19) on the fan (20). Remove the fan and baffle (21) from the shaft.

(3) Remove the button (32), the two bracket plate mounting screws (30) and the plate (31). Remove the nut (26) and the lead (10) from the starting switch (25).

(4) Remove the four nuts (15) from the bearing end bracket (29) and lift off the bracket, the bearing spring (28), the bearing (27) and the starting switch as a unit. Remove the screws (23 and 24) and separate the switch, bearing, spring, and bracket. Remove the four bolts (22) and the baffle (8) from the frame and stator assembly (11). Remove the bearing pipe plug (14) and drain plug (17) from each bracket (16 and 29). Remove the two base mounting screws (13) from the box mounting base (12) and remove the base. Separate the rotor assembly (6) from the frame and stator assembly (11).

c. Cleaning, Inspection, and Repair.

(1) Clean all parts with a clean cloth dampened with an approved cleaning solvent.

(2) Inspect the stator frame for cracks, breaks, or other defects. Replace a damaged or defective frame.

(3) Inspect the bearings for pits, scoring, wear, and out-of-round. Replace worn or defective bearings.

(4) Inspect the rotor shaft for cracks, wear, and misalignment. Replace a damaged or defective shaft.

(5) Inspect the rotor for cracks, breaks, and damaged laminations. Replace the rotor or stator if they are damaged. Replace the rotor, if it does not meet test standards (*c* above).

(6) Inspect all threaded parts for damage. Replace as necessary.

d. Reassembly.

(1) Install the rotor assembly (6, fig. 26.2) in the frame and stator assembly (11). Install the box mounting base (12) using the two base mounting screws (13). Install the drain plug (17) and bearing pipe plug (14) in

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1 Screw, capacitor housing mounting, No. 10–32 x 5/16 in. (2 rqr)
2 Housing, capacitor
3 Screw, capacitor lead (2 rqr)
4 Capacitor, motor starting
5 Contact, electrical, motor
6 Rotor assembly
7 Shaft, rotor
8 Lead, capacitor (2 rqr)
9 Lead, starter switch to stator
10 Frame and stator assembly
11 Base, box mounting
12 Screw, base mounting, ¼–20 x ⅝ in. (2 rqr)
13 Plug, pipe, bearing, ⅛–27 (2 rqr)
14 Nut, hex, bracket mounting, ¼–20 (8 rqr)
15 Bracket, drive end
16 Plug, drain, ⅜–18 (2 rqr)
17 Bearing
18 Setscrew, fan, No. 10–32 x 5/16 in.
19 Fan, motor ventilating
20 Baffle
21 Bolt, mounting bracket, ¼–20 x 11⅝ in. (4 rqr)
22 Screw, switch mounting, No. 12–24 x ½ in. (2 rqr)
23 Screw, switch mounting, No. 12–24 x 5/16 in. (2 rqr)
24 Switch, starting
25 Nut, hex, switch mounting
26 Bearing
27 Spring, bearing
28 Bracket, bearing end
29 Screw, bracket plate mounting, No. 10–24 x 5/16 in. (2 rqr)
30 Plate, bracket
31 Button, commutator end, 1 in., 12 prong

Figure 26.2. Electric motor, disassembly and reassembly (model OEH–34–60–ENG–2).

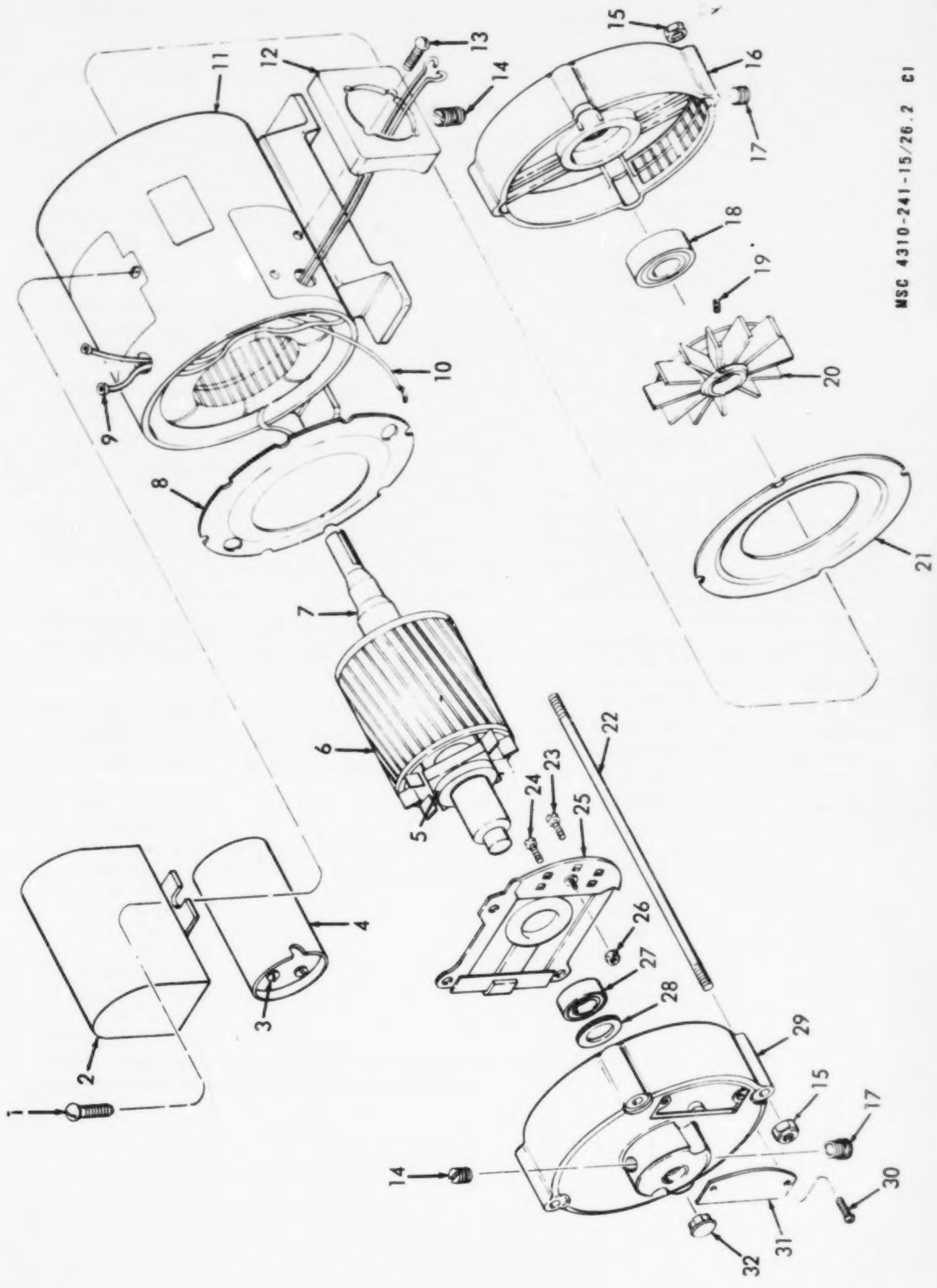
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Figure 26.2—Continued.

each bracket (16 and 24). Install the baffle (8) and the four bolts (22).

(2) Assemble the bearing end bracket (29), the bearing spring (28), the bearing (27), the starting switch (25), and install the two screws (23 and 24). Install this assembly on the frame and the four nuts (15) on the bolts (22).

(3) Install the lead (10) on the starting switch and secure with the nut (26). Install the bracket plate (31) using the two bracket plate mounting screws (30). Install the button (32) on the bearing end bracket.

(4) Install the baffle (21), the fan (20), and the bearing (18) on the shaft (7). Tighten the setscrew (19).

***Caution:* Use care to make certain the rotor assembly is properly aligned with the frame and stator assembly before completing the assembly. Improper alignment can cause excessive wear and malfunction.**

(5) Install the drive end bracket (16) using the four nuts (15).

(6) Install the two capacitor leads (9) on the motor starting capacitor (4) using the two capacitor lead screws (3). Install the capacitor in place, cover with the housing (2) and install the two capacitor housing mounting screws (1).

e. Installation. Install the electric motor (par. 65).

Page 70, paragraph 115*a*(2). After *"Model OEH-34-60-ENG-1"* add *and model OEH-34-60-ENG-2.*

Page 71, figure 27. Under "MODEL OEH-34-60-ENG-1" add AND MODEL OEH-34-60-ENG-2.

Page 73, paragraph 121*c*, line 3. After "Model OEH-34-60-ENG-1" add or Model OEH-34-60-ENG-2.

Page 75, paragraph 10. TM 5-4310-241-25P, line 6. After "FSN 4310-861-9823" add Receiver Mounted; Electric Driven; (Champion Pneumatic Model OEH-34-60-ENG-2) FSN 4310-088-1855.

Page 78, under Remarks. After "Mdl OEH-34-60-ENG-1" add and Mdl OEH-34-60-ENG-2 only.

Page 79, under Remarks. After "Mdl OEH-34-60-ENG-1" add and Mdl OEH-34-60-ENG-2 only.

Page 83, GROUP 50. 5015 — AIR DISCHARGE SYSTEM. Line 8. After "OEH-34-60-ENG-1" add and Model OEH-34-60-ENG-2.

By Order of the Secretary of the Army:

EARLE G. WHEELER,
General, United States Army,
Chief of Staff.

Official:
J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

USASA (2)
DCSLOG (1)
CNGB (1)
ACSI (1)
CSigO (1)
CofT (1)
TSG (1)
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USA Maint Bd (1)
USAARTYBD (2)
USAARMBD (2)
USAIB (2)
USARADBD (2)
USAAESWBD (2)
USAAVNBD (2)
USCONARC (3)
OS Maj Comd (5) except
  USARJ (10)
USAMOCOM (2)
USASMCOM (1)
MDW (1)
Armies (2)
Corps (2)
Div (2)
Engr Bde (1)
Engr Sec, GENDEP (10)
Engr Dep (OS) (10)
Army Dep (2)
Svc Colleges (2)
Br Svc Sch (2) except
  USAES (20)
USMA (2)
USA Tml Comd (2)
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USAOSA (2)
AMS (3)
Dist Engr (2)
Div Engr (2)
Engr Fld Maint Shops (2)
USAERDL (3)
Engr Cen (5)
ESCO (10)
Chicago Proc Ofc (10)
USA Mbl Spt Cen (36)
Fld Comd, DASA (8)
USACOMZEUR (2)
USAREUR Engr Sup Con Agcy (10)
USAREUR Engr Proc Cen (2)
USA Corps (1)
MAAG (1)
JBUSMC (1)
Units org under fol TOE:
  3-500 (EA) (2)
  5-48 (2)
  5-237 (5)
  5-262 (5)
  5-267 (1)
  5-278 (5)
  5-279 (2)
  10-407 (2)
  10-500 (HH, HI) (2)
  29-51 (2)
  29-52 (1)
  29-56 (2)
  29-57 (2)
  29-105 (2)
  29-107 (2)
  57-100 (2)

NG: State AG (3).
USAR: Same as Active Army except allowance is one copy to each unit.
For explanation of abbreviations used, see AR 320-50.

TM 5-4310-241-15
C 2

CHANGE }
No. 2 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *24 August 1965*

ORGANIZATIONAL, DS, GS, AND DEPOT MAINTENANCE MANUAL

COMPRESSOR, RECIPROCATING: AIR; 5 CFM, 175 PSI;

HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) LESS ENGINE
FSN 4310-861-9820

HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG-1) LESS ENGINE
FSN 4310-079-6290

RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1)
FSN 4310-861-9823

RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-2)
FSN 4310-088-1855

RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-3)
FSN 4310-075-3310

RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-4)
FSN 4310-965-1227

TM 5-4310-241-15, 9 January 1963, is changed as follows:

The title is changed to read as shown above.

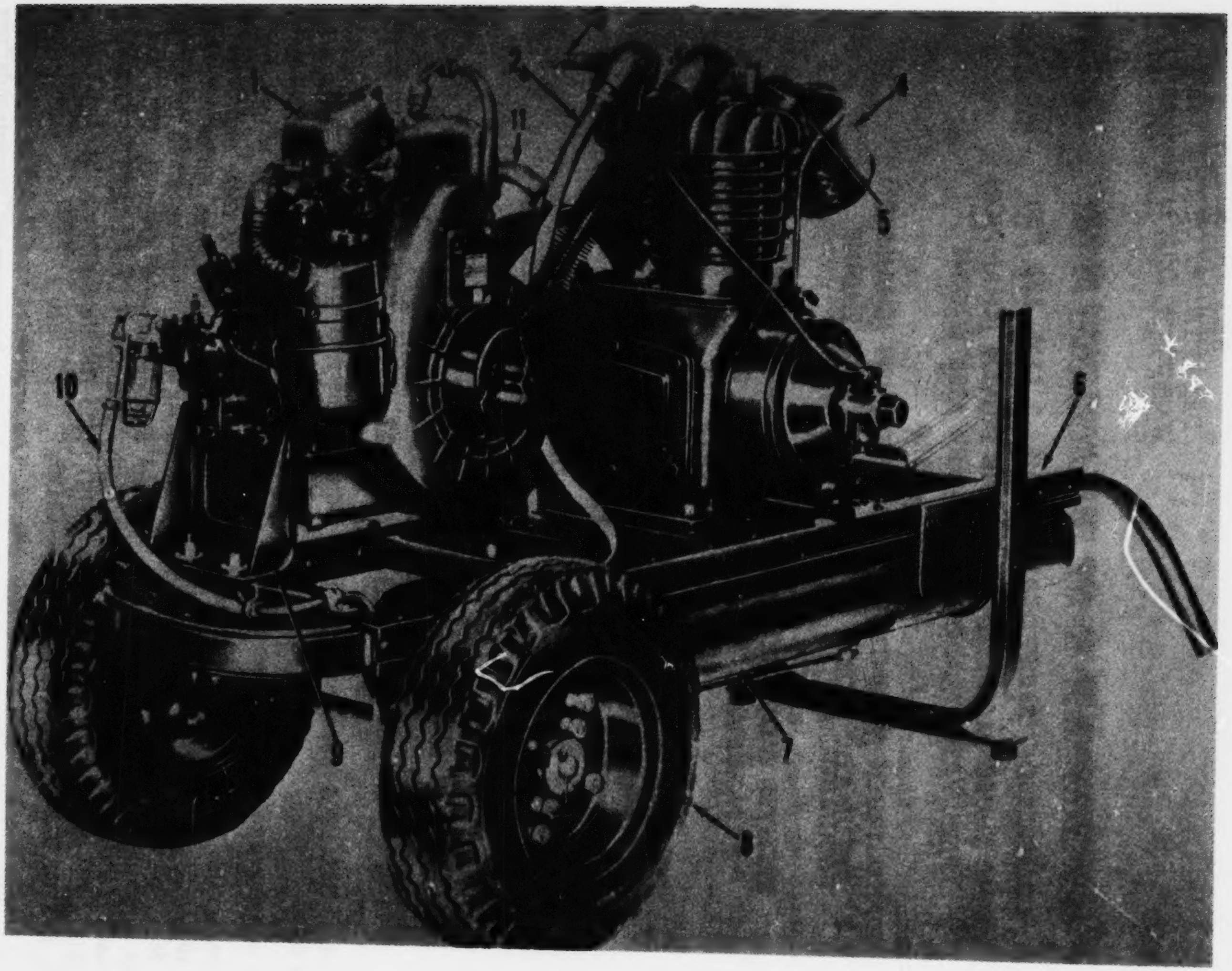
Page 2, paragraph 1*a*. Delete the first sentence and substitute the following: These instructions are published for the use of the personnel to whom the air compressors, Champion Pneumatic Models LP-512-ENG-1, OEH-34-60-ENG-1, OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4, are issued.

Paragraph 1.

c. (Superseded) The direct reporting by the individual user of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvement recommendations. This form will be completed using pencil, pen, or typewriter and forwarded direct to Commanding General, U.S. Army Mobility Equipment Center, ATTN: SMOME-MPD, 4300 Goodfellow Blvd., St. Louis, Mo. 63120.

d. (As superseded by C 1, 5 Feb 64) Report all equipment improvement recommendations as prescribed by TM 38-750.

Page 3.



MEC 4310-241-15/1.1 C2

1 Engine
2 Exhaust tube
3 Safety valve
4 Air cleaner
5 Manifold
6 Handtruck
7 Fuel tank
8 Wheel and tire assembly
9 Engine mounting bracket
10 Fuel line
11 Muffler

Figure 1. 1. (Added) *Air compressor, Model LP-512-ENG-1, left front view.*

Page 4. figure 2, title. After *"512-ENG"* add *LP-512-ENG-1*,.

Page 5, paragraph 3*a*, lines 2 and 3. After "512-ENG" delete "and Model OEH-34-60-ENG-1" and substitute LP-512-ENG-1, OEH-34-60-ENG-1, OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Lines 5 and 6. Delete "Model LP-512-ENG is" and substitute Models LP-512-ENG and LP-512-ENG-1 are.

Line 7. Delete "Model OEH-34-60-ENG-1 is" and substitute: Models OEH-34-60-ENG-1, OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4 are.

Paragraph 3.

b. (Superseded) *Engines*. The Military Standard engines are 4-cycle, single-cylinder, air cooled, gasoline, developing 1½ hp at 3,600 rpm. Model 1A08-1 is used on Model LP-512-ENG and Model 1A08-2 is used on Model LP-512-ENG-1.

c. (Superseded) *Electric Motors*. The electric motor (1, fig. 3) on models OEH-34-60-ENG-1 and OEH-34-60-ENG-4 is a three-phase, 2-hp, 60-cycle, ac, 208/416-v (volt) unit. The electric motor (7, fig. 3.1) on models OEH-34-60-ENG-2 and OEH-34-60-ENG-3 is a single-phase, 2-hp, 60-cycle, ac, 115/230-v unit.

Paragraph 3*d*, line 4. After "LP-512-ENG" add and LP-512-ENG-1.

Line 5. After "OEH-34-60-ENG-1" add OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 3*e* Line 2. After "OEH-34-60-ENG-1" add OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.

Line 3. After "LP-512-ENG" add and LP-512-ENG-1.

4. Identification

a. (Superseded) The Corps of Engineers identification plate, for all models, specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and the Federal stock number of the air compressor. This is mounted at the rear on the top of the air receiver tank platform between the compressor and the electric motor on model OEH-34-60-ENG-2. It is mounted on the right side of the air receiver tank on models OEH-34-60-ENG-1, OEH-34-60-ENG-3 and OEH-34-60-ENG-4. It is mounted on the front of the chassis adjacent to the left wheel on models LP-512-ENG and LP-512-ENG-1.

5. Differences in Models

(Superseded)

This manual covers the six Champion air compressors, models OEH-34-60-ENG-1, OEH-34-60-ENG-2, OEH-34-60-ENG-3, OEH-34-60-ENG-4, LP-512-ENG, and LP-512-ENG-1. Models OEH-34-60-ENG-1 and OEH-34-60-ENG-4 are equipped with a three-phase, 60-cycle, electric motor. Models OEH-34-60-ENG-2 and OEH-34-60-ENG-3 are equipped with a single-phase, 60-cycle electric motor. Models LP-512-ENG and LP-512-ENG-1 are driven by a four-cycle, single-cylinder, air cooled gasoline engine.

Paragraph 6*a*, line 3. After "OEH-34-60-ENG-1" add OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Line 4. After "LP-512-ENG" add and LP-512-ENG-1.

Paragraph 6*b*.

(1) (Superseded) *Models OEH-34-60-ENG-1 and OEH-34-60-ENG-4.*

(2) (Superseded) *Models OEH-34-60-ENG-2 and OEH-34-60-ENG-3.*

Manufacturer	Marathon
Model	184-CSR-29-BB
Type	CDR-LE
Cycle	60
Phase	Single
Horsepower	2
Volts	115/230
Duty	Continuous
Rated speed	1,725
Amperes:	
At 115 volts	24
At 230 volts	12
Frame	184
Temperature rise	40°
Rotation	CW

c. (Superseded) *Compressor*.

Manufacturer	Champion Pneumatic Machinery Co.

Model, electric motor driven (OEH-34-60-ENG-1 and OEH-34-60-ENG-2).	NR 150
Model, electric motor driven (OEH-34-60-ENG-3 and OEH-34-60-ENG-4).	NR 150 A
Model, gasoline engine driven (LP-512-ENG).	NR 150 L
Model, gasoline engine driven (LP-512-ENG-1).	NR 150 AL
Type	2-stage vertical
Speed (electric motor driven)	670 rpm
Speed (gasoline engine driven).	710 rpm
Bore and stroke:	
Low pressure	3¼ x 2⅛
High pressure	1¾ x 2⅛

f. (Superseded) *Magnetic Starter Switch Assembly.*

(1) *Models OEH-34-60-1 and OEH-34-60-ENG-4.*

Manufacturer	Federal Pacific Electric
Style	4204AABJ201-51
Maximum pressure	250 psi
Minimum differential	30 psi

(2) *Models OEH-34-60-2 and OEH-34-60-ENG-3.*

Manufacturer	Federal Pacific Electric
Style	4204AA12J201-26
Maximum pressure	250 psi
Minimum pressure	30 psi

Page 6, figure 3, title. After "*OEH-34-60-ENG-1*" add *and Model OEH-34-60-ENG-4.*

Figure 3. 1, title. After "OEH-34-60-ENG-2" add *and Model OEH-34-60-ENG-3.*

Page 8, paragraph 6*h*(1). After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 6*h*(2). After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

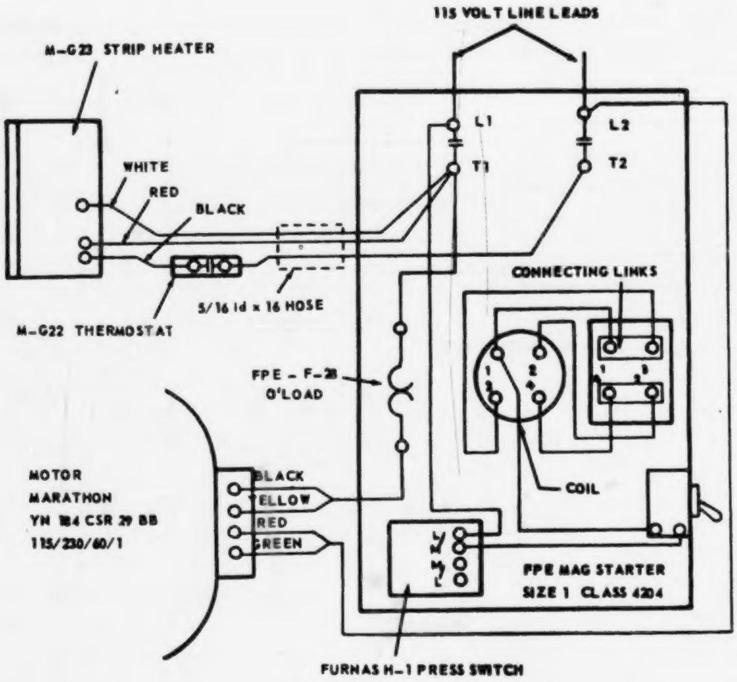
Paragraph 6*i*(1). After "*Model*" Delete "*OEH-34-60-ENG-1*" and substitute *Models OEH-34-60-ENG-1, OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-4.*

Paragraph 6*i*(2). After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

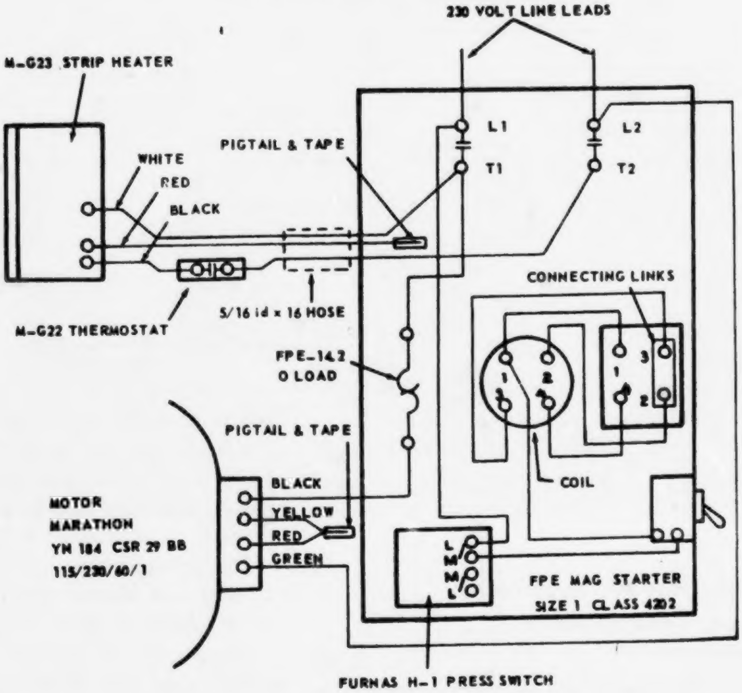
Paragraph 6*j* (1). After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.*

Paragraph 6*j*(2). After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Page 10.


115 VOLT LINE LEADS
M-G23 STRIP HEATER
WHITE
RED
BLACK
M-G22 THERMOSTAT
5/16 id x 16 HOSE
L1
L2
T1
T2
CONNECTING LINKS
FPE - F-28
O'LOAD
1
2
3
4
COIL
MOTOR
MARATHON
YN 184 CSR 29 BB
115/230/60/1
BLACK
YELLOW
RED
GREEN
FPE MAG STARTER
SIZE 1 CLASS 4204
FURNAS H-1 PRESS SWITCH

115 VOLT OPERATION


230 VOLT LINE LEADS
M-G23 STRIP HEATER
PIGTAIL & TAPE
WHITE
RED
BLACK
M-G22 THERMOSTAT
5/16 id x 16 HOSE
L1
L2
T1
T2
CONNECTING LINKS
FPE-14.2
O LOAD
1
2
3
4
COIL
PIGTAIL & TAPE
MOTOR
MARATHON
YN 184 CSR 29 BB
115/230/60/1
BLACK
YELLOW
RED
GREEN
L
M
M
L
FPE MAG STARTER
SIZE 1 CLASS 4202
FURNAS H-1 PRESS SWITCH

230 VOLT OPERATION

MEC 4310-241-15/5.2 C2

Figure 5.2. (Added) *Wiring diagram (Model OEH-34-60-ENG-3).*

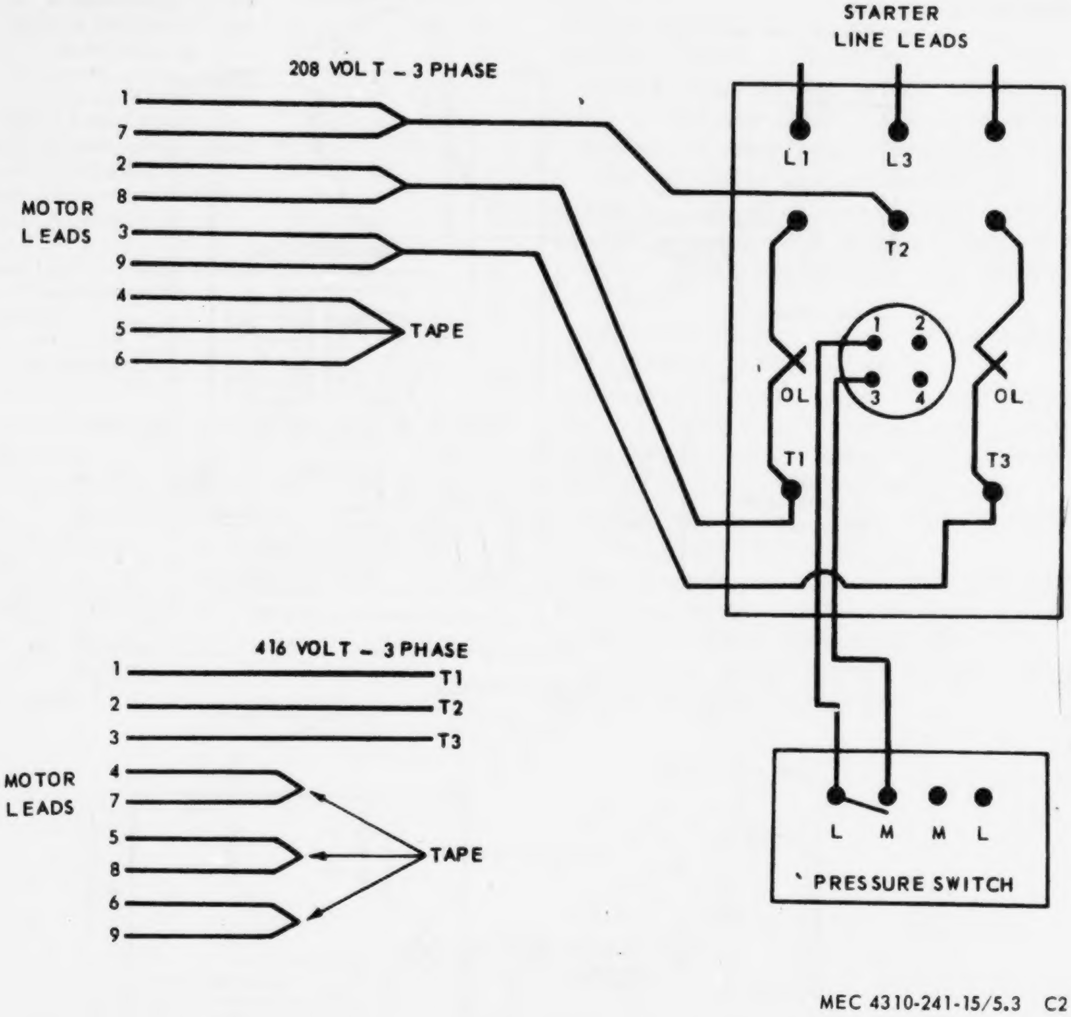

STARTER
LINE LEADS
208 VOLT – 3 PHASE
MOTOR
LEADS
1
7
2
8
3
9
4
5
6
TAPE
L1
L3
T2
OL
OL
T1
T3
1
2
3
4
416 VOLT – 3 PHASE
1
2
3
T1
T2
T3
MOTOR
LEADS
4
7
5
8
6
9
TAPE
L
M
M
L
PRESSURE SWITCH
MEC 4310-241-15/5.3 C2

Figure 5.3. (Added) *Wiring diagram (Model OEH–34–60–ENG–4).*

Page 11, figure 6. After "*Model LP–512–ENG*" add *and Model LP–512–ENG–1.*

Figure 6. After "*OEH–34–60–ENG–1*" add *and Models OEH–34–60–ENG–2, OEH–34–60–3 and OEH–34–60–ENG–4.*

Page 13.

10. Installation of Separately Packed Components

(Superseded)

The air compressors are delivered with air hose assembly packed separately. Models OEH–34–60–ENG–1, OEH–34–60–ENG–2, OEH–34–60–ENG–3, and OEH–34–60–ENG–4 have an inflation gage and globe valve which are installed as shown in figure 8. Models LP–512–ENG and LP–512–ENG–1 do not have a globe valve, and the air hose assembly is installed directly in the end of the air receiver tank.

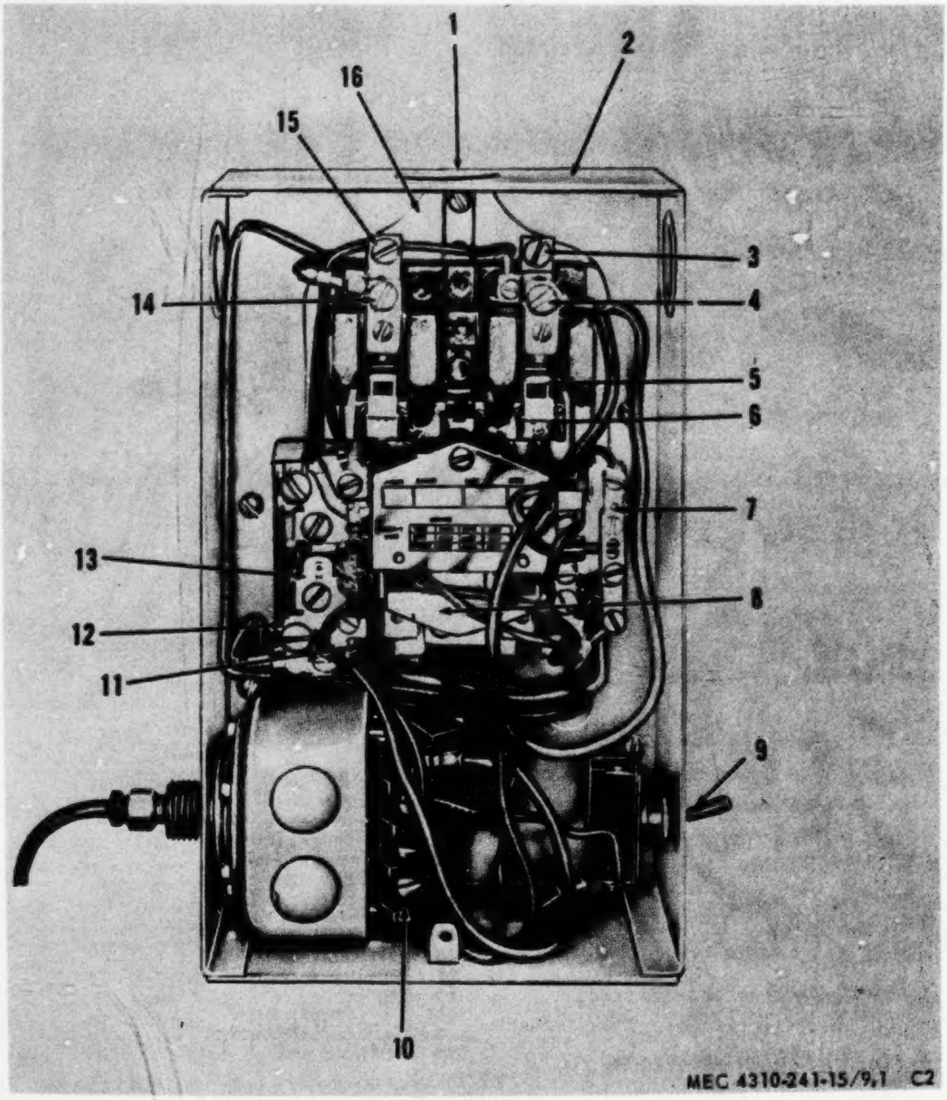
Paragraph 11*a*. After "*OEH–34–60–ENG–1*" add *and Models OEH–34–60–ENG–2, OEH–34–60–ENG–3 and OEH–34–60–ENG–4.*

Page 14, paragraph 11*b*. After "*LP–512–ENG*" add *and Model LP–512–ENG–1.*

Page 15. Paragraph 12*a*. After "*OEH–34–60–ENG–1*" add *and Models OEH–34–60–*

ENG–2, OEH–34–60–ENG–3, and OEH–34–60–ENG–4.

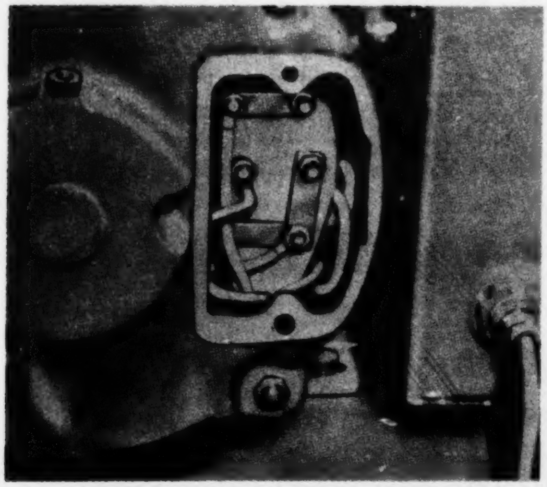
Paragraph 12*b*. After "*LP–512–ENG*" add *and Model LP–512–ENG–1.*



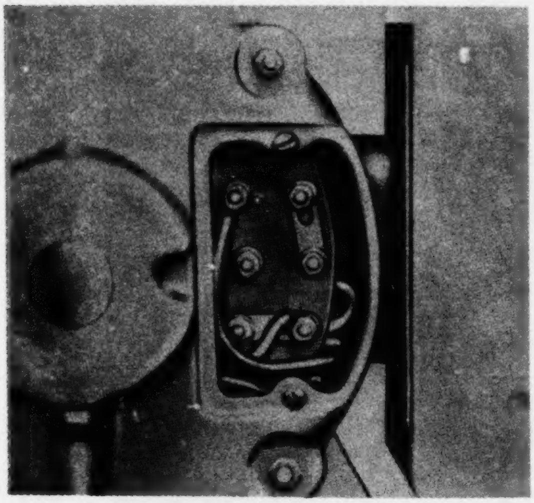
MEC 4310-241-15/9.1 C2

1. Plug, knock out
2. Starter box
3. L 2 terminal screw
4. T 2 terminal screw
5. Stationary contact
6. Movable contact
7. Link (2 rqr)
8. Coil retainer spring
9. Switch, off-on
10. Pressure switch
11. Overload relay
12. Terminal screw
13. Heater, E–14.2
14. T 1 terminal screw
15. L 1 terminal screw
16. Mounting plate

Figure 9.1. (Superseded) *Electric motor wiring and magnetic starter (Models OEH–34–60–ENG–2, OEH–34–60–ENG–3 and OEH–34–60–ENG–4).*

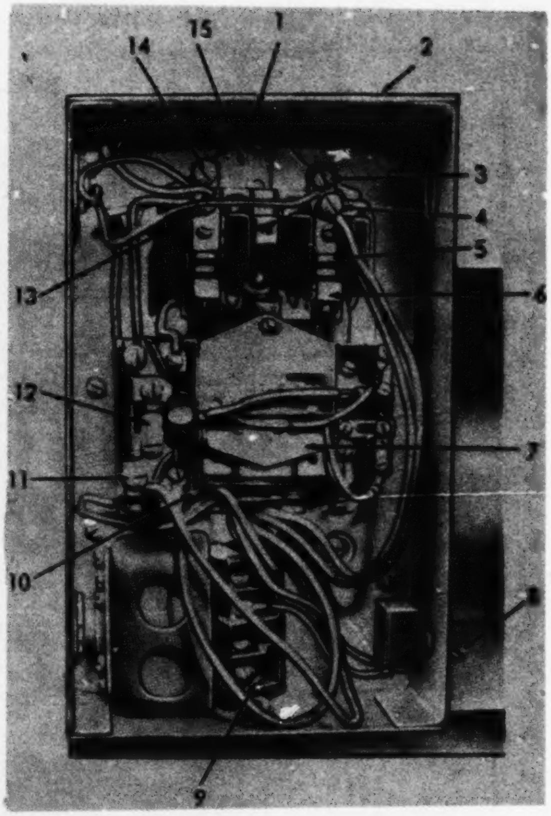


A - Electric motor wiring for 115 volts



B - Electric motor wiring for 230 volts

Figure 9.2. (Added) *Electric motor wiring (Model OEH-34-60-ENG-3).*



MEC 4310-241-15/9.3 C2

1	Plug, knockout
2	Starter box
3	L 2 terminal screw
4	T 2 terminal screw
5	Stationary contact
6	Movable contact
7	Coil retainer spring.
8	Switch, off-on
9	Pressure switch
10	Overload relay
11	Terminal screw
12	Heater
13	T 1 terminal screw
14	L 1 terminal screw
15	Mounting plate

Figure 9.3. (Added) *Magnetic starter (Model OEH-34-60-ENG-3).*

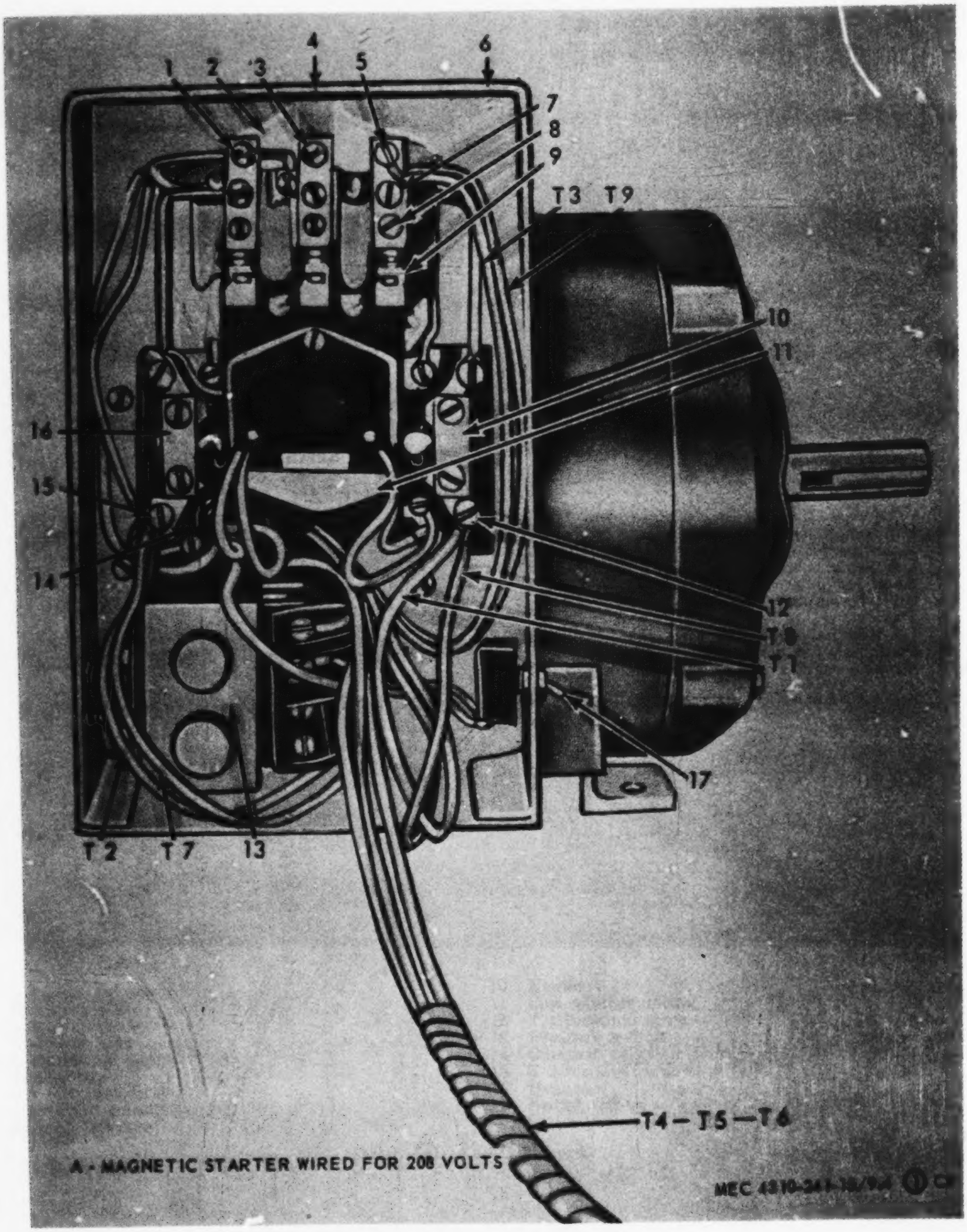
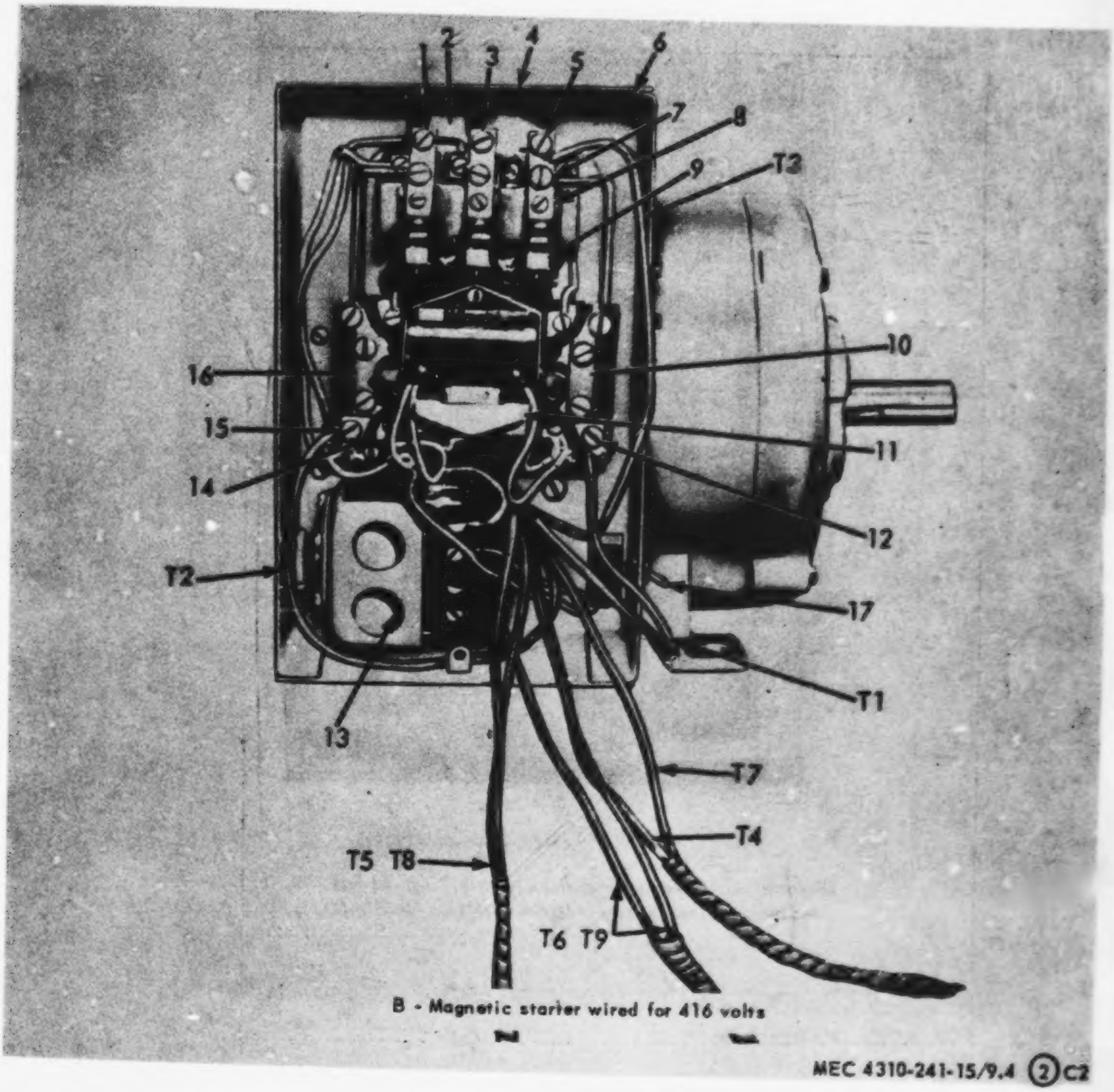

1
2
3
4
5
6
7
8
9
T3
T9
10
11
16
15
14
12
T8
T1
17
T2
T7
13
T4–T5–T6
A - MAGNETIC STARTER WIRED FOR 208 VOLTS
MEC 4310-241-15/9.4 ① C2

Figure ① , *9.4.* (Added) *Magnetic starter (Model OEH-34-60-ENG-4).*

1 L 1 terminal screw
2 Mounting plate
3 L 2 terminal screw
4 Knockout plug
5 L 3 terminal screw
6 Starter box
7 T 3 terminal screw
8 Stationary contact
9 Movable contact
10 Heater
11 Coil retainer spring
12 T 1 terminal screw
13 Pressure switch
14 Overload relay
15 T 2 terminal screw
16 Heater
17 Switch, off-on

Figure ①, *9.4.* (Added) *Magnetic starter (Model OEH–34–60–ENG–4)*—Continued

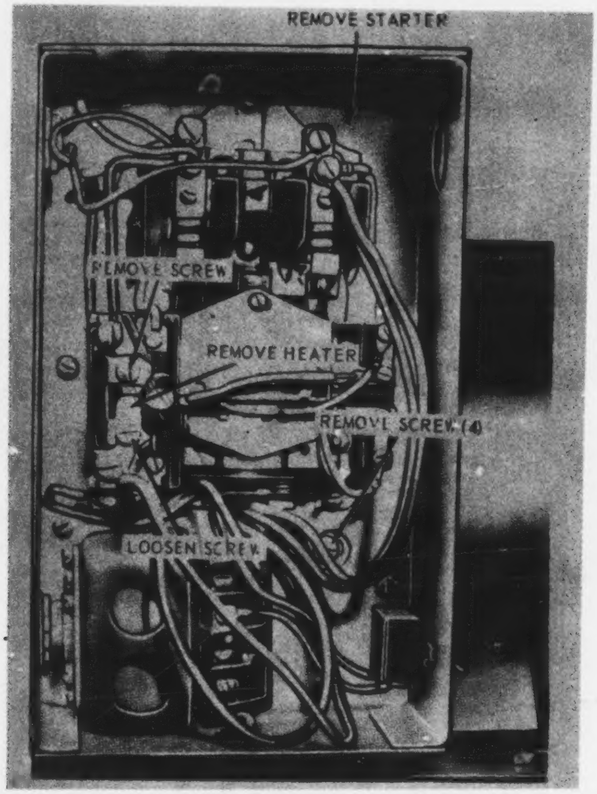

1
2
3
4
5
6
7
8
9
T3
10
16
15
11
14
12
T2
17
T1
13
T7
T4
T5 T8
T6 T9

B - Magnetic starter wired for 416 volts

MEC 4310-241-15/9.4 ②C2

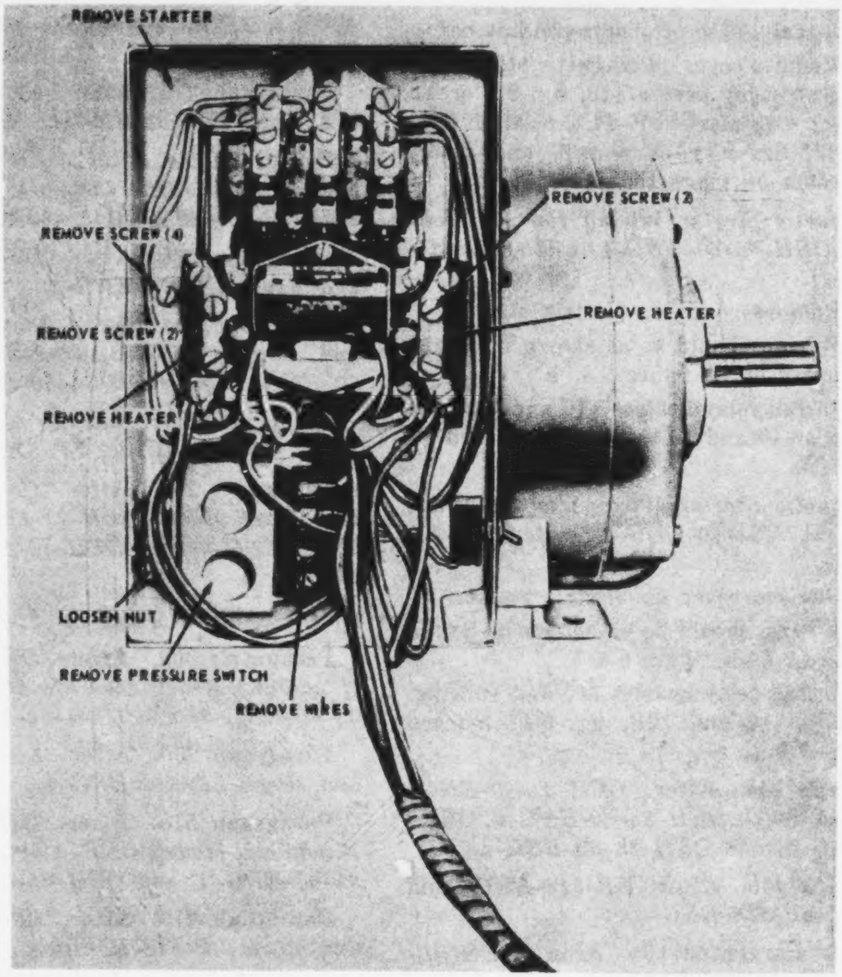
1 L 1 terminal screw
2 Mounting plate
3 L 2 terminal screw
4 Knockout plug
5 L 3 terminal screw
6 Starter box
7 T 3 terminal screw
8 Stationary contact
9 Movable contact
10 Heater
11 Coil retainer spring
12 T 1 terminal screw
13 Pressure switch
14 Overload relay
15 T 2 terminal scdew
16 Heater
17 Switch, off-on

Figure ② , *9.4*—Continued.


REMOVE STARTER
REMOVE SCREW
REMOVE HEATER
REMOVE SCREW (4)
LOOSEN SCREW

MEC 4310-241-15/9.5 C2

Figure 9.5. (Added) Magnetic starter and heater, removal and installation (Model OEH-34-60-ENG-3).


REMOVE STARTER
REMOVE SCREW (2)
REMOVE SCREW (4)
REMOVE HEATER
REMOVE SCREW (2)
REMOVE HEATER
LOOSEN NUT
REMOVE PRESSURE SWITCH
REMOVE WIRES

MEC 4310-241-15/9.6 C2

Figure 9.6. (Added) *Magnetic starter, heater, and pressure switch, removal and installation (Model OEH-34-60-ENG-4).*

13. Equipment Conversion

(Superseded)

a. Magnetic Starter Wiring for 115 Volts (Models OEH-34-60-ENG-2 and OEH-34-60-ENG-3).

(1) Remove cover on motor conduit box.

(2) Position links on screws as shown in A, figure 9.2.

(3) Install cover on motor conduit box.

(4) Remove cover on magnetic starter, install relay heater (13, fig. 9.1 or 12, fig. 9.3) marked F-28, position links (7, fig. 9.1) as shown and install the cover on magnetic starter.

b. Magnetic Starter Wiring for 230 Volts (Models OEH-34-60-ENG-2 and OEH-34-60-ENG-3).

(1) Remove cover on motor conduit box.

(2) Position links on screws as shown in B, fig. 9.2.

(3) Install cover on motor conduit box.

(4) Remove cover on magnetic starter, install relay heater (13, fig. 9.1 or 12, fig. 9.3) marked F-14.2, position links (7, fig. 9.1) as shown, and install cover on magnetic starter.

c. Magnetic Starter Wiring for 208 Volts (Models OEH-34-60-ENG-1 and OEH-34-60-ENG-4).

(1) Remove cover on electric starter.

(2) Wiring should be as shown in A, figure 9 or A, figure 9.4.

(3) Install relay heaters (10 and 16A, fig. 9 or 10 and 16A, fig. 9.4) marked F-12.6.

d. Magnetic Starter Wiring for 416 Volts (Models OEH-34-60-ENG-1 and OEH-34-60-ENG-4).

(1) Remove cover on electric starter.

(2) Wiring should be as shown in B, figure 9 or B, figure 9.4.

(3) Install relay heaters (10 and 16B, fig. 9 or 10 and 16B, fig. 9.4) marked F-7.1.

Paragraph 14*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 14*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Page 17. Paragraph 15*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.*

Paragraph 15*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 16*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.*

Paragraph 16*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Page 19, paragraph 18. After header add (Models LP-512-ENG and LP-512-ENG-1).

Paragraph 19. After header add (Models LP-512-ENG and LP-512-ENG-1).

Page 21, paragraph 27*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 27*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 28*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 28*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 29*a*, line 6. After "*ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.*

Paragraph 29*a*. line 8. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 29*b*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Page 22, paragraph 29*c*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 30*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 30*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 31*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 31*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Page 23, paragraph 32*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 32*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 33*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 33*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1.*

Paragraph 34*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Page 24, paragraph 34*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1*.

Paragraph 35*a*. After "*OEH-34-60-ENG-1*" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-4*.

Paragraph 35*b*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1*.

Page 25, paragraph 38.

b. (Superseded) The basic issue items supplied with the air compressors are listed in appendix III.

Paragraph 41*d*. After "*LP-512-ENG*" add *and Model LP-512-ENG-1*.

LUBRICATION

ORDER

LO 5-4310-241-15

SUPERSEDES LO5-4310-241-15, Dated 20 July 1962

COMPRESSOR RECIPROCATING: AIR; 5 CFM; 175 PSI; HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) AND LP-512-ENG-1) COMPRESSOR RECIPROCATING: AIR; 5 CFM; 175 PSI; RECEIVER MOUNTED ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1) OEH-34-60-ENG-2, OEH-34-60 ENG-3, OEH-34-60 ENG-4)

Reference: LO 5-2805-206-14, C 9100IL

Intervals are based on normal hours of operations. Reduce to compensate for abnormal operations and severe conditions. During inactive periods sufficient lubrication must be performed for adequate preservation.

Relubricate after washing.

Clean fittings before lubricating.

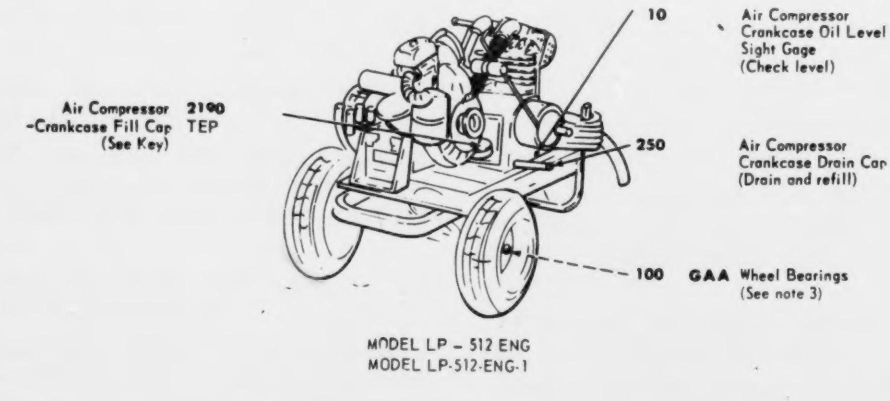
Clean parts with SOLVENT, dry-cleaning, or with OIL, fuel, Diesel. Dry before lubricating.

Lubricate points indicated by dotted arrow shafts on both sides of equipment.

Drain crankcase when hot. Fill and check level.

FOLD FOLD

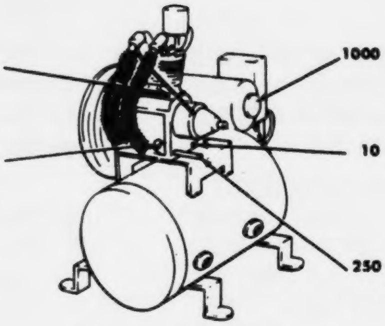
INTERVAL • LUBRICANT **LUBRICANT • INTERVAL**


Air Compressor
-Crankcase Fill Cap
(See Key)
2190
TEP
10
Air Compressor
Crankcase Oil Level
Sight Gage
(Check level)
250
Air Compressor
Crankcase Drain Cap
(Drain and refill)
100
GAA
Wheel Bearings
(See note 3)
MODEL LP - 512 ENG
MODEL LP-512-ENG-1

MEC 4310-241-15 11 ①

Figure 11. (Superseded) *Lubrication order.*

LUBRICANT • INTERVAL **INTERVAL • LUBRICANT**



Air Compressor 2190 TEP
Crankcase Fill Cap
(See Key)
(Model OEH-34-60-Eng-4)

Air Compressor 2190
Crankcase Fill Cap -TEP
(See Key)

1000 BR Air Compressor Motor
(Lubricate sparingly)
(See note 2)

10 Air Compressor
Crankcase oil level
Sight Gage
(Check level)

250 Air Compressor
Crankcase Drain Cap
(Drain and refill)

MODEL OEH-34-60-ENG-1
MODEL OEH-34-60-ENG-2
MODEL OEH-34-60-ENG-3
MODEL OEH-34-60-ENG-4

FOLD FOLD

— KEY —

LUBRICANT	CAPACITY	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F	+40°F to -10°F	0°F to -65°F	
2190-LUBRICATING OIL, General Purpose		2190-TEP	2110 -TH	2075-TH	Intervals given are in hours of normal operation.
Air Compressor Crankcase	1 qt				
GAA-GREASE, Automotive and Artillery		All Temperatures			
BR-GREASE, Balland roller bearing					

NOTES:

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -10°F. Remove lubricants prescribed in the key for temperatures above -10°F. Clean parts with SOLVENT, dry-cleaning. Relubricate with lubricants specified in the key for temperatures below -10°F.

2. Air compressor motor. OEH-34-60-ENG-1 sealed bearings no lubrication required.

3. Wheel bearings. On model LP-512 ENG and LP-512-ENG-1 only

Copy of this Lubrication Order will remain with the equipment at all times; instructions contained herein are mandatory.

BY ORDER OF THE
SECRETARY OF THE ARMY:

HAROLD K. JOHNSON
General, United States Army,
Chief of Staff.

OFFICIAL:
J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

MEC 4310-241-15 11 ②

Figure 11—Continued.

Page 32, PREVENTIVE MAINTENANCE SERVICES DAILY. After caption: "CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1" add AND MODELS OEH-34-60-ENG-2, OEH-34-60-ENG-3 AND OEH-34-60-ENG-4.

Page 34, PREVENTIVE MAINTENANCE SERVICES DAILY. After caption: "CHAMPION PNEUMATIC MODEL LP-512-ENG" add AND MODEL LP-512-ENG-1.

Page 36, PREVENTIVE MAINTENANCE SERVICES QUARTERLY. After caption: "CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1" add AND MODELS OEH-34-60-ENG-2, OEH-34-60-ENG-3 AND OEH-34-60-ENG-4.

Page 38, PREVENTIVE MAINTENANCE SERVICES QUARTERLY. After caption: "CHAMPION PNEUMATIC MODEL LP-512-ENG" add AND MODEL LP-512-ENG-1.

Page 41, paragraph 64, line 2. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 64, line 3. After "512-ENG" add and Model LP-512-ENG-1.

Page 43, figure 14, title. After *"ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.*

Page 44, figure 15, title. After *"ENG"* add *and Model LP-512-ENG-1.*

Paragraph 67, Heading. After "OEH-34-60-ENG-1" add And Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.

Page 45, paragraph 68, heading. After "LP-512-ENG" add And Model LP-512-ENG-1.

Section V, heading. After "OEH-34-60-ENG-1" add AND MODELS OEH-34-60-ENG-2, OEH-34-60-ENG-3, AND OEH-34-60-ENG-4.

Paragraph 70. (as added by C 1, 5 Feb. 64) After heading add (Model OEH-34-60-ENG-1).

Page 46.

70.1. Magnetic Starter With Pressure Switch and Cover (MODELS OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4)

(Superseded)

a. Removal.

(1) Turn off the outside power source.

(2) Release all air from compressor by opening draincock.

(3) Remove magnetic starter cover (para 14).

(4) Remove pressure switch tube (para 71).

(5) Loosen terminal screws and remove outside power wires from magnetic starter box.

(6) Remove the two machine screws, lockwashers, flat washers, and nuts that secure magnetic starter box to electric motor. Remove magnetic starter and pressure switch.

b. Disassembly.

(1) Remove the leads from T1 terminal and T2 terminal (14 and 4, fig. 9.1).

(2) Remove heater (13).

(3) Remove overload relay (11).

(4) Remove screws that secure mounting plate (16) to starter box (2) and remove starter assembly.

(5) Remove stationary contacts (5).

(6) To remove movable contacts (6), lift contact upward and pull free of block.

(7) To remove coil retainer spring (8), lift upward and pull free.

(8) Remove wires and off-on switch.

c. Cleaning and Inspection.

(1) Clean magnetic starter, off-on switch, and pressure switch by blowing all dust and dirt from the starter and switches with compressed air.

(2) Clean the wires with a dry cloth.

(3) Clean all other parts with an approved cleaning solvent, and dry thoroughly.

(4) Replace a defective magnetic starter, pressure switch, or off-on switch.

d. Reassembly.

(1) Install off-on switch (9, fig. 9.1) and connect wires.

(2) Insert coil retainer spring (8) in position below coil and depress until it locks in place.

(3) Insert the movable contacts (6) to contactor block and depress until they lock in place.

(4) Secure stationary contacts (5) to contactor block.

(5) Position magnetic starter assembly in magnetic starter box (2) and secure to mounting plate (16).

(6) Install overload relay (11).

(7) Install heater (13).

(8) Connect leads to terminal T1 and T2 (14 and 4).

e. Installation.

(1) Install magnetic starter box on electric motor and secure with two machine screws, lockwashers, flat washers, and nuts.

(2) Install outside power source wires in the magnetic starter box.

(3) Install pressure switch tube (para 71).

(4) Install magnetic starter cover (para 14).

Paragraph 71. After heading add (Models OEH-34-60-ENG-1, OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 72, Heading. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3 and OEH-34-60-ENG-4.

Page 47, section VI, header. After "LP-512-ENG" add AND MODEL LP-512-ENG-1.

Page 49, paragraph 78, header. After "LP-512-ENG" add and Model LP-512-ENG-1.

Page 51, paragraph 83*a*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Page 52, paragraph 83*b*. After *"LP-512-ENG"* add *and Model LP-512-ENG-1.*

Paragraph 83*d*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 83*e*. After *"LP-512-ENG"* add *and Model LP-512-ENG-1.*

Page 54, paragraph 88*a*(4). After "LP-512-ENG" add and Model LP-512-ENG-1.

Paragraph 88*a*(4)(*d*), line 3. After "ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 88*c*(1). After "LP-512-ENG" add and Model LP-512-ENG-1.

Paragraph 88*c*(1)(*c*), line 3. After "OEH-34-60-ENG-1" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Page 58, paragraph 93, header. After "LP-512-ENG" add and Model LP-512-ENG-1.

Page 59, paragraph 94*a*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 94*b*. After *"LP-512-ENG"* add *and Model LP-512-ENG-1.*

Paragraph 94*d*. After *"LP-512-ENG"* add *and Model LP-512-ENG-1.*

Paragraph 94*e*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 95, header. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 96*a*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

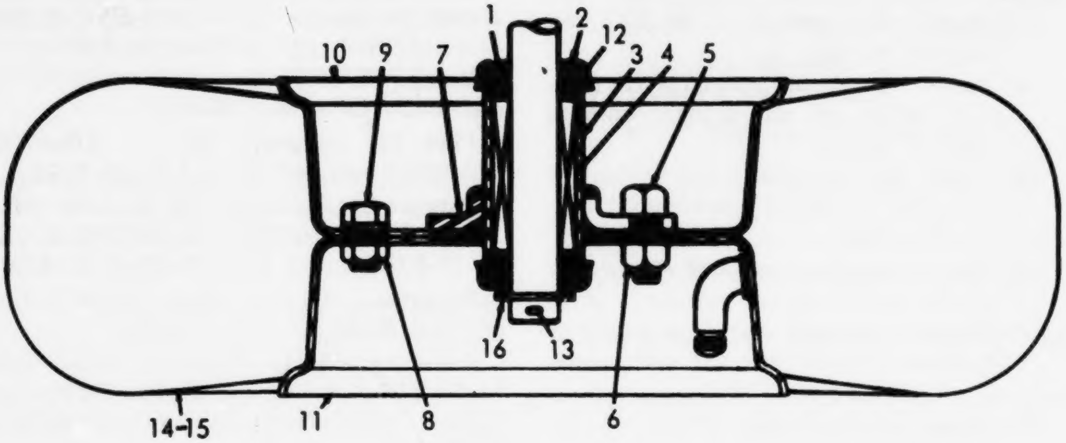
Paragraph 96*c*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Page 62, paragraph 104*a*. After *"LP-512-ENG"* add *and Model LP-512-ENG-1.*

Paragraph 104*b*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 104*d*. After *"OEH-34-60-ENG-1"* add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Paragraph 104*e*. After *"LP-512-ENG"* add *and Model LP-512-ENG-1.*



MEC 4310-241-15/23.1 C2

1	Seal	9	Screw, cap (5 rqr)
2	Cap, end	10	Disc
3	Tube	11	Disc
4	Bearing	12	Retainer
5	Bolt (3 rqr)	13	Pin
6	Nut, lock (3 rqr)	14	Tire
7	Flange	15	Tube
8	Nut (5 rqr)	16	Washer

Figure 23.1, (Added) *Wheel assembly (Model LP-512-ENG-1).*

Figure 23, title. After "*Wheel assembly*" add *(Model LP-512-ENG).*

Paragraph 105. After "Removal" add (Model LP-512-ENG).

105.1. Removal (MODEL LP-512-ENG-1)

(Added)

a. Remove pin (13, fig. 23.1).

b. Remove nut (6) and bolt (5) and remove wheel assembly.

c. Remove nut (8) and screw (9).

d. Remove disc (10) and disc (11).

e. Remove tire (14) and tube (15).

Paragraph 106. After "Installation" add (Model LP-512-ENG).

106.1. Installation (Model LP-512-ENG-1)

(Added)

a. Install disc (10, fig. 23.1) and disc (11) on tire (14) and tube (15).

b. Install screw (9) and nut (8).

c. Install wheel assembly and tighten nut (6) on bolt (5).

d. Install pin (13).

Page 64, paragraph 109, line 2. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 109, line 2. After "LP-512-ENG" add and Model LP-512-ENG-1.

Page 69, paragraph 112.1, header. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Page 70, paragraph 115*a*(1). After "LP-512-ENG" add *and Model LP-512-ENG-1.*

Paragraph 115*a*(2). After "OEH-34-60-ENG-1" add *and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.*

Page 71. Under "MODEL LP-512-ENG" add AND MODEL LP-512-ENG-1.

Under "MODEL OEH-34-60-ENG-1" add ~~AND MODELS~~ OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Page 72, paragraph 118*g*, line 1. After "LP-512-ENG" add and Model LP-512-ENG-1.

Page 73, paragraph 121*c*, line 3. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60-ENG-4.

Paragraph 121*c*, line 4. After "LP-512-ENG" add and Model LP-512-ENG-1.

Page 75, paragraph 10. Delete "SM10-1-C4-1" and substitute FSC C9100-IL.

Paragraph 10, TM 5-4310-241-25P, line 4. After "FSN 4310-861-9820 add Hand Truck Mounted; Gasoline Driven (Champion Pneumatic Model LP-512-ENG-1) Less Engine FSN 4310-079-6290.

Paragraph 10, TM 4310-241-25P, line 6. After "FSN 4310-861-9823" add Receiver Mounted; Electric Driven (Champion Pneumatic Model OEH-34-60-ENG-2) FSN 4310-088-1855; Receiver Mounted; Electric Driven (Champion Pneumatic Model OEH-34-60-ENG-3) FSN 4310-075-3310; Receiver Mounted; Electric Driven (Champion Pneumatic Model OEH-34-60-ENG-4) FSN 4310-965-1227.

Page 78, under Remarks, After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60 ENG-4.

Page 79, under Remarks. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, and OEH-34-60 ENG-4.

Page 80, paragraph 2*a*(1). Rescinded.

Page 81. Paragraph 4*c*. Rescinded.

5. Comments and Suggestions

Page 82, BASIC ISSUE ITEMS LIST, Technical service column. Delete all technical service codes.

BASIC ISSUE ITEMS LIST. Under "2606—ACCESSORIES". Add the following:

Source column	P
Maintenance column	O
Federal stock number column.	7510-889-3494
Description column	BINDER, LOOSE LEAF: U.S. Army Equipment Log Book.

Note: Initial issue and replacement will be made in accordance with TM 38-750.

Quantity Authorized column.	1
Quantity Issued with equipment column.	1

Page 83, Group 50—PNEUMATIC EQUIPMENT, 5015—AIR DISCHARGE SYSTEM, line 5. After "512-ENG" add LP-512-ENG-1.

Page 83, group 50—PNEUMATIC EQUIPMENT, 5015—AIR DISCHARGE SYSTEM, line 8. After "OEH-34-60-ENG-1" add and Models OEH-34-60-ENG-2, OEH-34-60-ENG-3, OEH-34-60-ENG-4.

Page 85, section III. MAINTENANCE AND OPERATING SUPPLIES, Add the following under item 5.

Item column	6
Component application column.	4005—BEARINGS
Federal stock No. column	9150-526-4215
Description column	Grease, Ball and roller bearing 1 lb-can as follows: BR

Page 85, section III. MAINTENANCE AND OPERATING SUPPLIES, Source of supply column. Delete all technical service codes.

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

- USASA (2)
- ACSI (1)
- DCSLOG (1)
- CNGB (1)
- TSG (1)
- CofEngrs (1)
- CC-E (1)
- Dir of Trans (1)
- CofSpts (1)
- USAMB (1)
- USAARTYBD (2)
- USAARMBD (2)
- USAIB (2)
- USARADBD (2)
- USAAESWBD (2)
- USAAVNBD (2)
- USCONARC (3)
- OS Maj Comd (5) except
  - USASETAF (2)
  - USARJ (10)
- USAMOCOM (2)
- USASMC (1)
- MDW (1)
- Armies (2)
- Corps (2)
- Div (2)
- Engr Bde (1)
- Svc Colleges (2)
- Br Svc Sch (2) except
  - USAES (100)
  - USAARMS (4)
- USMA (2)
- GENDEP (10)
- Engr Dep (10)
- Army Dep (2)
- USA Tml Comd (2)
- Army Tml (1)
- Div Engr (2)
- Engr Dist (2)
- USA Engr Rsch & Dev Lab (3)
- USA Mob Equip Cen (46)
- Engr Cen (5)
- USAREUR Engr Proc Cen (2)
- USAREUR Engr Sup Con Agcy (10)
- Chicago Proc Ofc (10)
- Engr Fld Maint Shops (2)
- Fld Comd, DASA (8)
- AMS (3)
- USACOMZEUR (2)
- USAC (1)
- MAAG (1)
- JBUSMC (1)
- Units org under fol TOE:
  - 5-500 (HF, HG, HN) (2)
  - 10-500 (EE, HK) (2)
  - 29-500 (DA, DB, DC, DD) (2)

NG: State AG (3).

USAR: Same as active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320-50.

Changes in force: C 1, C 2, and C 3

TM 5-4310-241-15
C 3

CHANGE No. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, *D. C., 25 April 1968*

Organizational, DS, GS, and Depot Maintenance Manual

COMPRESSOR, RECIPROCATING: AIR; 5 CFM, 175 PSI;

HAND TRUCK MOUNTED; GASOLINE DRIVEN
(CHAMPION PNEUMATIC MODEL LP-512-ENG) LESS ENGINE
FSN 4310-861-9820

HAND TRUCK MOUNTED; GASOLINE DRIVEN
(CHAMPION PNEUMATIC MODEL LP-512-ENG-1) LESS ENGINE
FSN 4310-079-6290

RECEIVER MOUNTED; ELECTRIC DRIVEN
(CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1)
FSN 4310-861-9823

RECEIVER MOUNTED; ELECTRIC DRIVEN
(CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-2)
FSN 4310-088-1855

RECEIVER MOUNTED; ELECTRIC DRIVEN
(CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-3)
FSN 4310-075-3310

RECEIVER MOUNTED; ELECTRIC DRIVEN
(CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-4)
FSN 4310-965-1227

TM 5-4310-241-15, 9 January 1963, is changed as follows:

Page 2. Paragraph 1*c* is superseded as follows:

c. Report of errors, omissions and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U. S. Army Mobility Equipment Command, ATTN: AMSME-MPP, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120.

Page 80 thru 85. Appendix III is superseded as follows:

APPENDIX III

BASIC ISSUE ITEMS LIST

Section 1. INTRODUCTION

1. Scope

This appendix lists items which accompany the compressor or are required for installation, operation, or operator's maintenance.

2. General

This Basic Issue Items list is divided into the following sections:

a. Basic Issue Items — Section II. A list of items which accompany the compressor or are required for the installation, operation, or operator's maintenance.

b. Maintenance and Operating Supplies — Section III. A listing of maintenance and operating supplies required for initial operation.

3. Explanation of Columns

The following provides an explanation of columns in the tabular list of basic issue items, section II.

a. Source, Maintenance, and Recoverability Codes (SMR), colm (1).

Note. Common hardware items known to be readily available in Army supply will be assigned maintenance codes only. Source codes, recoverability codes, and quantity authorized will not be assigned to this category of items.

(1) Source Code, indicates the selection status and source for the listed item. Source codes are:

Code	*Explanation*
P	Applied to repair parts which are stocked in or supplied from GSA/DSA or Army supply system, and authorized for use at indicated maintenance categories.
C	Applied to repair parts authorized for local procurement. If not obtainable from local procurement, such repair parts will be requisitioned through normal supply channels with a supporting statement of nonavailability from local procurement.

(2) Maintenance Code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code	*Explanation*
C	Operator/crew

(3) Recoverability Code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

Code	*Explanation*
R	Applied to repair parts and assemblies which are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.
T	Applied to high dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts are normally repaired or overhauled at depot maintenance activities.
U	Applied to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value reusable casings and castings.

(2) Maintenance Code, indicates the lowest category of maintenance authorized to install the listed item.

b. Federal Stock Number (colm 2). This column indicates the Federal stock number for the item.

c. Description (colm 3). This column indicates the Federal item name and any additional description of the item required. A part number or other reference number follows the applicable five-digit Federal supply code for manufacturers in parentheses. Repair parts quantities included in kits, sets, and assemblies are shown in front of the repair part name.

d. Unit of Issue (colm 4). This column indicates the unit used as a basis for issue, e.g., ea, pr, ft, yd, etc.

e. Quantity Incorporated in Unit Pack (colm 5). This column indicates the actual quantity contained in the unit pack.

f. Quantity Incorporated in Unit (colm 6). This column indicates the quantity of the item used in the functional group.

g. Quantity Furnished With Equipment (colm 7). This column indicates the quantity of an item furnished with the equipment.

h. Quantity Authorized (colm 8). This column indicates the quantity of an item authorized the operator/crew to have on hand or to obtain as required. As required items are indicated with an asterisk.

i. Illustration (colm 9). This column is divided as follows:

(1) *Figure number (colm 9a).* Indicates the figure number of the illustration in which the item is shown.

(2) *Item number (colm 9b).* Indicates the callout number used to reference the item in the illustration.

4. Explanation of Columns in the Tabular List of Maintenance and Operating Supplies — Section III.

a. Component Application. Column (1). This column identifies the component application of each maintenance or operating supply item.

b. Federal Stock Number, Column (2). This column indicates the Federal Stock number for the item and will be used for requisitioning purposes.

c. Description, Column (3). This column indicates the item and brief description.

d. Quantity Required for Initial Operation, Column (4). This column indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment.

e. Quantity Required for 8 Hours Operation, Column (5). This column indicates the estimated quantities required for an average eight hours of operation.

f. Notes, Column (6). This column indicates informative notes keyed to data appearing in a preceding column.

5. Abbreviations

ea	each
qt	quart
gal	gallon
gph	gallons per hour
lb	pound

Section II. BASIC ISSUE ITEMS

(1) SMR Code	(2) Federal Stock Number	(3) DESCRIPTION	(4) Unit of Issue	(5) Qty inc in Unit Pack	(6) Qty inc in Unit	(7) Qty furn with Equip	(8) Qty Auth	(9) Illustration	
								(a) Fig No.	(b) Item No.
		31 — BASIC ISSUE ITEMS, MANUFACTURER INSTALLED							
		3100 — BASIC ISSUE ITEMS, MANUFACTURER OR DEPOT INSTALLED							
PC	2990-972-7950	ROPE, STARTING	EA			1	1		
PC	7510-889-3494	BINDER: loose leaf, U. S. Army Equipment Log Book	EA			1	1		

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9) Illustration	
SMR Code	Federal Stock Number	DESCRIPTION	Unit of Issue	Qty inc in Unit Pack	Qty inc in Unit	Qty furn with Equip	Qty Auth	(a) Fig No.	(b) Item No.
PC	7520-559-9618	CASE: Operation and Maintenance Publications, cotton duck, water repellent, mildew resistant MIL-B-11743B	EA			1	1		
PC		Department of the Army Operator, Organizational, Field and Depot Maintenance Manual TM 5-4310-241-15	EA			1	1		
PC		Department of the Army Operator, Organizational and Field Maintenance Manual TM 5-2805-206-14	EA			1	1		
		76 — FIRE FIGHTING EQUIPMENT COMPONENTS							
		7603 — FIRE EXTINGUISHERS							
APC	4210-555-8837	EXTINGUISHER, FIRE MONOBROMOTRIFLUOROMETHANE HAND: penetrating seal valve, stored pressure: w/bracket, 2.75 lbs.	EA			1	1		

Section III. MAINTENANCE AND OPERATING SUPPLIES

(1) Component Application	(2) Federal Stock Number	(3) DESCRIPTION	(4) Quantity Required F/Initial Operation	(5) Quantity Required F/8 Hrs Operation	(6) NOTES
0101 — CRANKCASE (1)		OIL, LUBRICATING 1-qt Sealed cans as follows:			(1) Includes quantity of oil to fill engine oil system as follows: crankcase 1/2 qt air cleaner 1/8 qt
	9150-265-9433	OE-30	5/8 qt	(3)	
	9150-265-9425	OE-10	5/8 qt	(3)	
	9150-242-7602	OES	5/8 qt	(3)	(2) Use oil as prescribed item 1 above.
0304 — AIR CLEANER (2)		OIL, LUBRICATING (2)			(3) See LO 5-2805-206-14 for grade application and replenishment intervals.
0306 — TANK		FUEL, GASOLINE: 5-gal can as follows:			
	9130-160-1817	Gasoline, automotive combat	5.2 qt(4)	2.28 qt(4 (5)	(4) Tank capacity
1311 — WHEELS	9150-190-0904	GREASE, AUTOMOTIVE AND ARTILLERY: 1 lb can		(6)	(5) Average fuel consumption is .285 gph of continuous operation.
5001 — CRANKCASE		OIL LUBRICATING: 5 gal drums as follows:			(6) See current LO for application and replenishment intervals.
	9150-242-7603	OES	1 qt (7)	(6)	(7) Compressor capacity.
	9150-223-4137	Grade 2110	1 qt (7)	(6)	
	9150-231-6639	Grade 2190	1 qt (7)	(6)	

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12-25, Section I, Organizational maintenance requirements for Air Compressors, 5 CFM.

Changes in force: C 1, C 2, C 3 and C 4

TM 5-4310-241-15
C 4

CHANGE
No. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C. *7 April, 1969*

Organizational, DS, GS and Depot Maintenance Manual
COMPRESSOR, RECIPROCATING, AIR; 5 CFM 175 PSI, HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) LESS ENGINE FSN 4310-861-9820; HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG-1) LESS ENGINE FSN 4310-079-6290; RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1) FSN 4310-861-9823; RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-2) FSN 4310-088-1855; RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-3) FSN 4310-075-3310; RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-4) FSN 4310-965-1227

TM 5-4310-241-15, 9 January 1963 is changed as follows:

Page 80, paragraph 3*a* (1) code C and the associated explanation is rescinded.

Page 81, Section II, is superseded as follows:

Section II. BASIC ISSUE ITEMS

(1) SMR code	(2) Federal stock number	(3) Description	(4) Unit of issue	(5) Qty inc in unit pack	(6) Qty inc in unit	(7) Qty furn with equip	(8) Qty auth	(9) Illustration	
								(a) Figure No.	(b) Item No.
		BASIC ISSUE ITEMS, MANUFACTURER INSTALLED							
PC	7520-559-9618	CASE, OPERATIONAL AND MAINTENANCE PUBLICATIONS	EA			1	1		
PC		DA TECHNICAL MANUAL TM 5-4310-241-15	EA			1	1		
		BASIC ISSUE ITEMS, TROOP INSTALLED OR AUTHORIZED							
PC	4210-555-8837	EXTINGUISHER, FIRE: MONOBROMOTRIFLUOROMETHANE, HAND	EA			1	1		

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:
KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12-25, Section I, (qty rqr block no. 6) Organizational Maintenance requirements for Air Compressors: 5 CFM.

TECHNICAL MANUAL
No. 5-4310-241-15

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D.C., *9 January 1963*

Operator Organizational, Field and Depot Maintenance Manual

COMPRESSOR, RECIPROCATING: AIR; 5 CFM; 175 PSI, HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) LESS ENGINE

FSN 4310-861-9820

RECEIVER MOUNTED; ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1)

FSN 4310-861-9823

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instruction are published for the use of the personnel to whom the air compressors, Champion Pneumatic Models LP–512–ENG and OEH–34–60–ENG–1, are issued. Chapters 1 through 3 provide information on the operation, daily preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 4 provides information for field and depot maintenance (3d, 4th, and 5th echelons). This manual also provides descriptions of the main units and their functions in relationship to other components. Maintenance for the engine is covered in TM 5–2805–206–14.

b. Appendix I contains a list of references applicable to this manual. Appendix II contains the Maintenance Allocation Charts. Appendix III contains the Basic Issue Items and the Maintenance and Operating Supplies required for initial operation. The Organizational, Field, and Depot Maintenance Repair Parts and Special Tool Lists for the compressor are listed in TM 5–4310–241–25P. The Repair Parts and Special Tool Lists for the engine are listed in TM 5–2805–206–14P.

c. Report all deficiencies in this manual on DA Form 2028 (Recommended Changes to DA TM Parts Lists or SM 7, 8, or 9). Submit recommended for changes, additions, or deletions to the Commanding Officer, U. S. Army Mobility Support Center, ATTN: SMOMS–MS, P. O. Box 119, Columbus 16, Ohio. Direct communication is authorized.

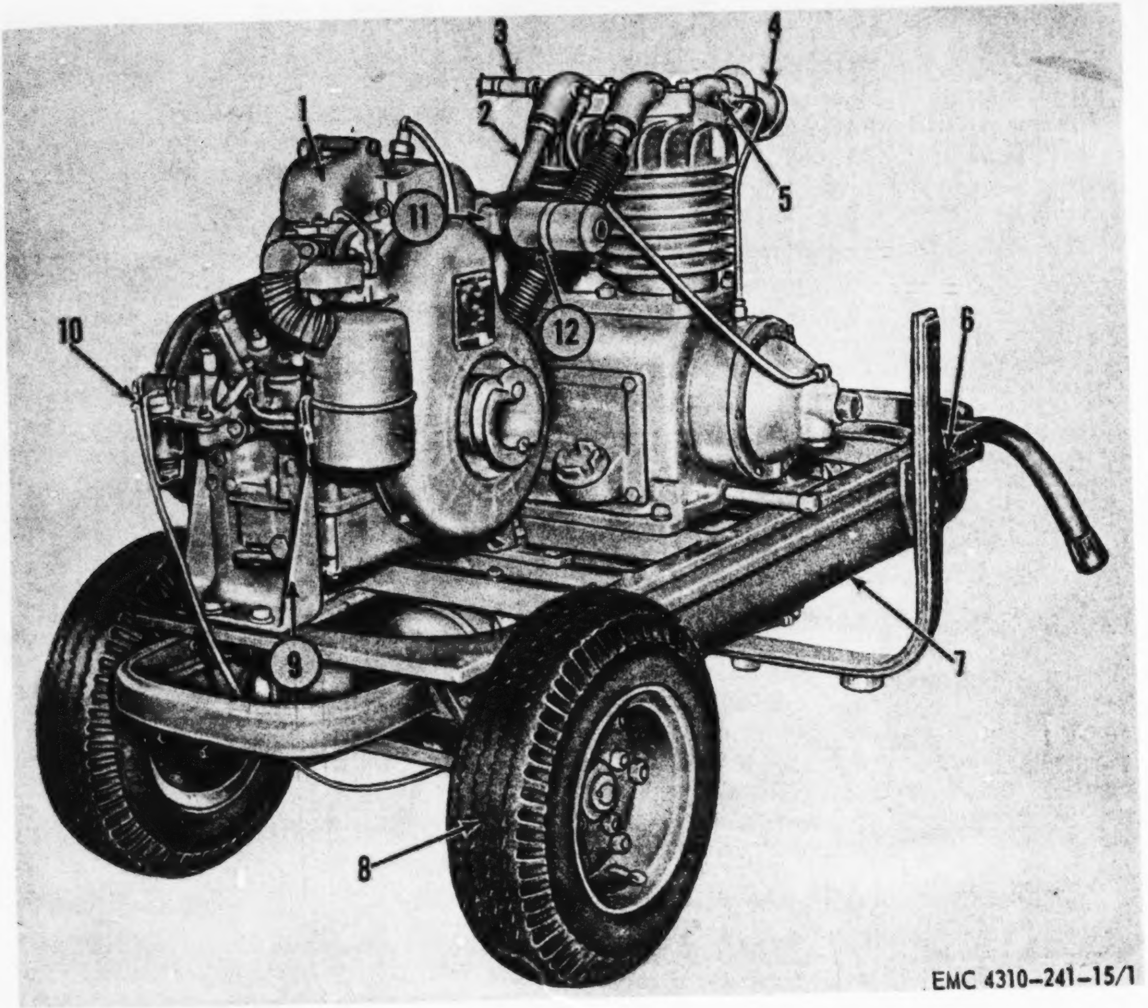
d. Report unsatisfactory equipment performance and suggestions for equipment improvement as specified in AR 750–5.

2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide of Engineer Equipment).

b. For record and report forms applicable to operator, organizational, and field and depot maintenance, refer to TM 38–750.

Note. Applicable forms, excluding Standard Form 46 which is carried by the operator, shall be kept in a canvas bag mounted on the equipment.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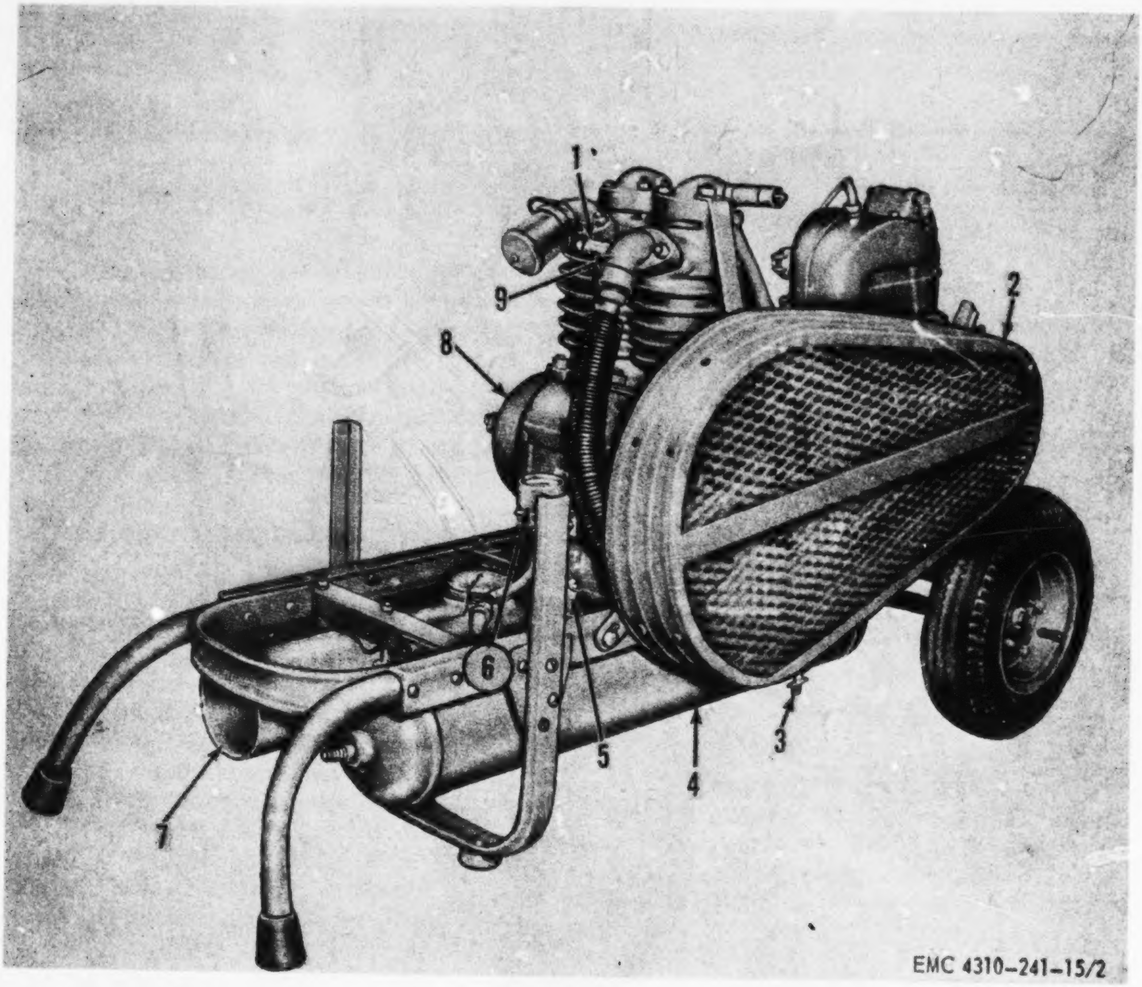
EMC 4310-241-15/1

1	Engine	7	Fuel tank
2	Exhaust tube	8	Wheel and tire assembly
3	Safety valve	9	Engine mounting bracket
4	Air cleaner	10	Fuel line
5	Manifold	11	Adapter
6	Hand truck	12	Muffler

Figure 1. Air Compressor, Model LP-512-ENG, left front view.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EMC 4310-241-15/2

1	Intercooler relief valve
2	Belt guard
3	Draincock
4	Air receiver tank
5	Unloading valve
6	Pressure gage
7	Fuel tank
8	Air compressor
9	Manifold

Figure 2. Air compressor, Model LP–512–ENG, right rear view.

Section II. DESCRIPTION AND DATA

3. Description

a. General. The Champion air compressors, Model LP–512–ENG and Model OEH–34–60–ENG–1 are designed to deliver 5 cfm (cubic feet per minute) of air compressed to 175 psi (pounds per square inch) pressure. Model LP–512–ENG is gasoline engine driven and hand truck mounted. Model OEH–34–60–ENG–1 is electric motor driven and tank mounted.

b. Engine. The Military Standard engine, Model 1A08–1, is a 4-cycle, single-cylinder, air-cooled, gasoline engine, developing 1½ horsepower (hp) at 3600 rpm.

c. Electric Motor. The electric motor is a three-phase, 2-hp, 60-cycle AC, 208/416 V (volt).

d. Air Compressor. The air compressor is a two-cylinder, two-stage, air-cooled unit. It will deliver 5 cfm at 175 psi to the air receiver tank when the LP–512–ENG model is driven at 710 rpm and the OEH–34–60–ENG–1 model is driven at 670 rpm.

e. Air Receiver Tank. The air receiver tank for Model OEH–34–60–ENG–1 has a capacity of 60 gallons, and for model LP–512–ENG has a capacity of 2 gallons.

4. Identification

a. The Corps of Engineers identification plate, Model OEH–34–60–ENG–1 and Model LP–512–ENG, specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and the Federal stock number of the air compressor. This is mounted on the right side of the air receiver tank on Model OEH–34–60–ENG–1. It is mounted on the front of the chassis adjacent to the left wheel on Model LP–512–ENG.

b. The compressor identification plate specifies the name of the manufacturer and the model and serial number of the compressor. The plate is mounted on the governor housing of the compressor.

c. The electric motor identification plate specifies the name of the manufacturer, model number, and date, and is mounted on the front side of the motor housing.

5. Differences in Models

This manual covers the Champion air compressor, Model OEH–34–60–ENG–1, and Model LP–512–ENG. Model OEH–34–60–ENG–1 is equipped with a three-phase, 60-cycle electric motor. Model LP–512–ENG is driven by a four-cycle, single-cylinder, air-cooled gasoline engine.

6. Tabulated Data

a. General.

Manufacturer	Champion Pneumatic Machinery Co.
Model, electric motor driven	OEH–34–60–ENG–1
Model, gasoline engine driven	LP–512–ENG
Output	5 cfm at 175 psi

b. Electric Motor.

Manufacturer	Marathon
Model	184–TSR–27–BB
Type	CDR–LE
Cycle	60
Phase	3
Horsepower	2
Volts	208/416
Duty	Continuous
Rated Speed	1725
Amperes:	
At 208-volts	6
At 416-volts	3
Frame	184
Temperature Rise	40° to 50°

c. Compressor.

Manufacturer	Champion Pneumatic Machinery Co.
Model, electric motor driven	NR–150
Model, gasoline engine driven	NR–150L
Type	2-stage vertical
Speed (OEH–34–60–ENG–1)	670 rpm
Speed (LP–512–ENG)	710 rpm
Bore and stroke:	
Low-pressure	3¼ x 2⅛
High-pressure	1¾ x 2⅛

d. Compressor Air Cleaner.

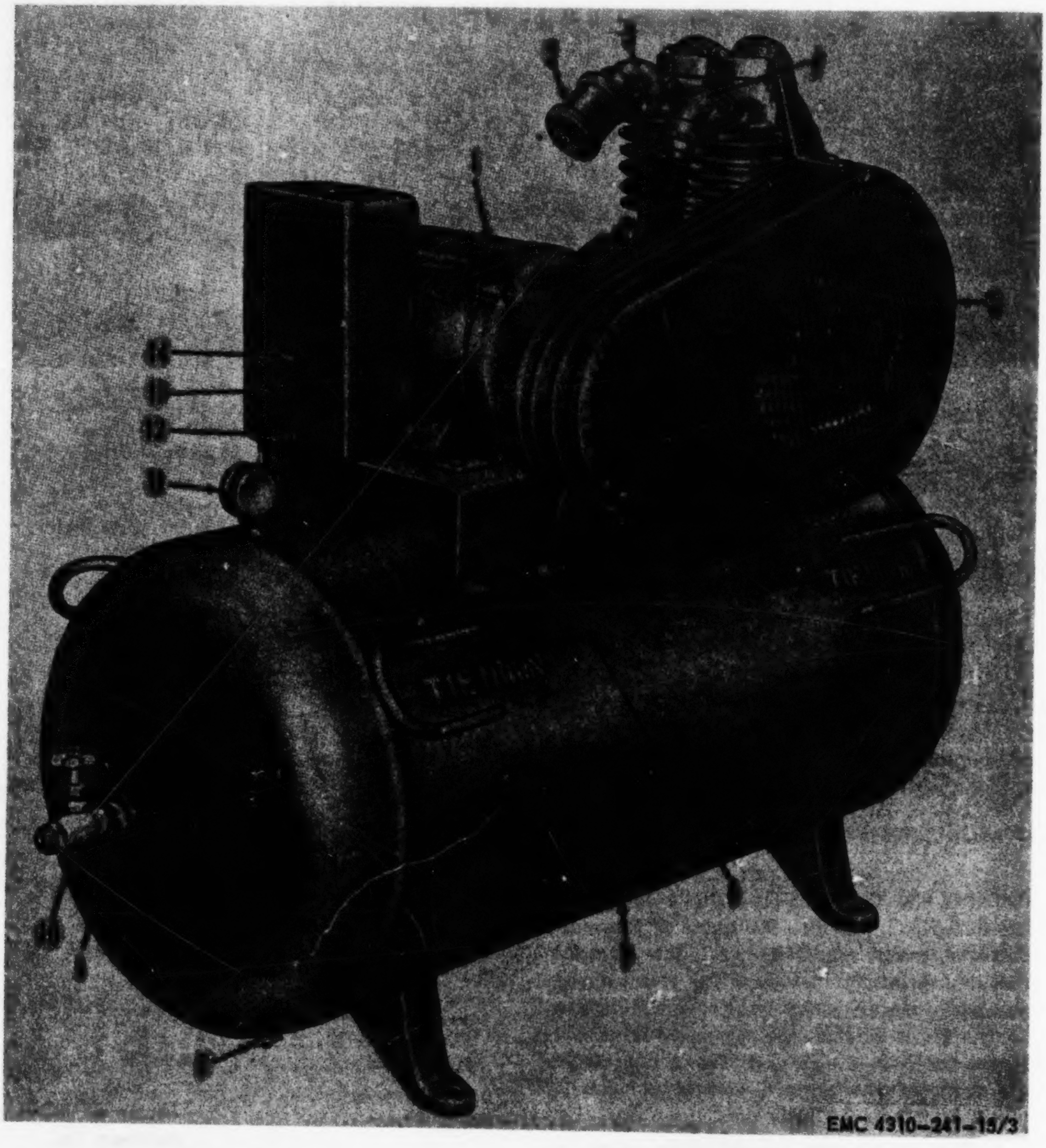
Manufacturer	Champion Pneumatic Machinery Co.
Type	Dry

e. Engine.

Complete data on the engine is contained in TM 5–2805–206–14 and 14P.

f. Magnetic Starter Switch Assembly.

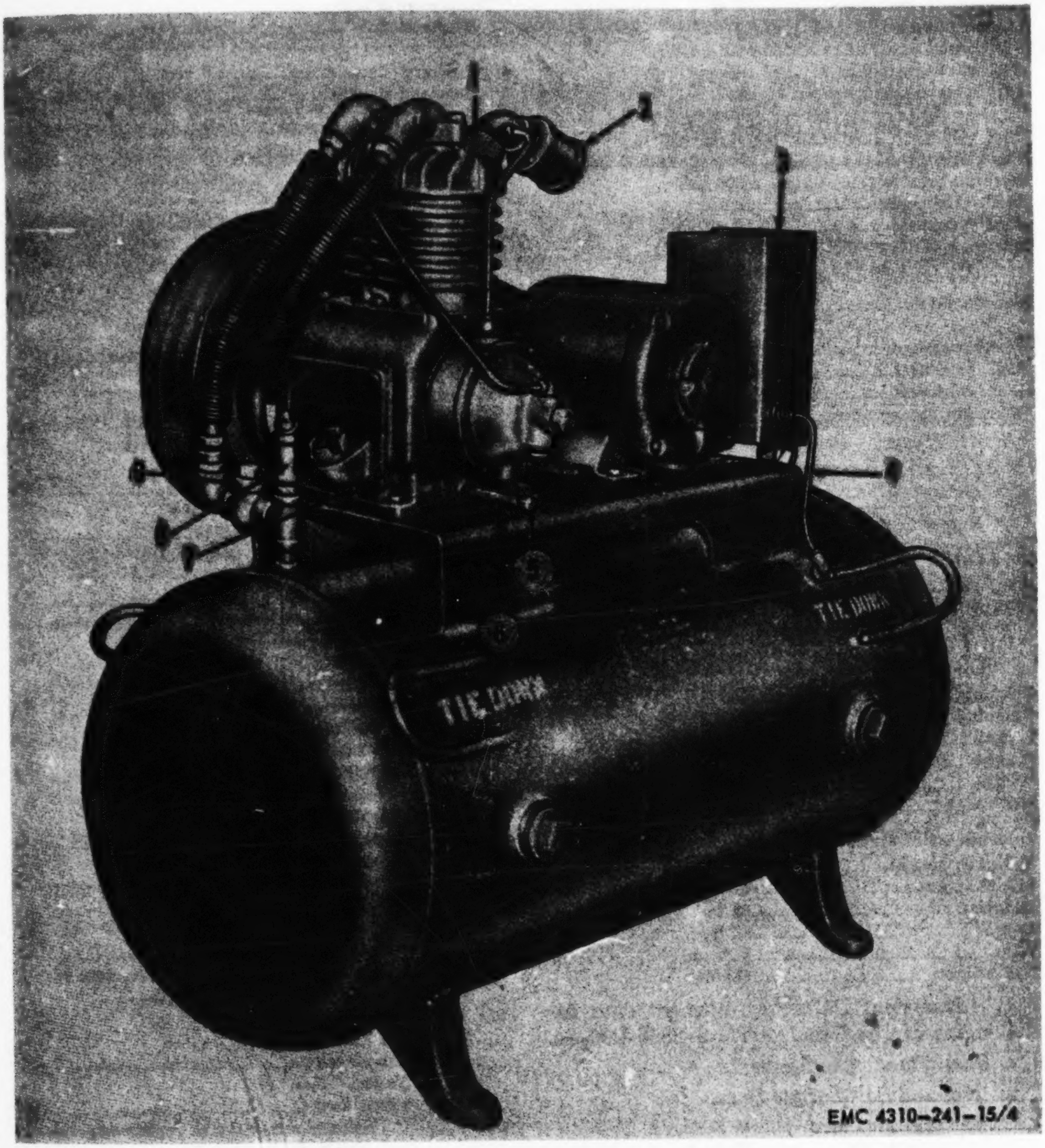
Manufacturer	Federal Pacific Electric
Style	4204AABJ201–51
Maximum pressure	250 psi
Minimum differential	30 psi



EMC 4310-241-15/3

1 Electric motor
2 Intake air cleaner
3 Intercooler safety valve
4 Manifold
5 V-belt guard
6 Air receiver tank platform
7 Air receiver tank
8 Draincock
9 Nipple
10 Globe valve
11 Pressure gage
12 Screw
13 Starter
14 Reset button

Figure 3. Air compressor, Model OEH-34-60-ENG-1, front left side view.



1 Compressor
2 Air cleaner
3 Magnetic Starter
4 Pressure switch tube
5 Oil drain cap
6 Oil drain nipple
7 Governor
8 Safety relief valve
9 Check valve

Figure 4. Air compressor, Model OEH–34–60–ENG–1, rear right side view.

g. Capacities.

Compressor crankcase	1 qt.
Engine crankcase	1 pt.
Fuel tank	5.2 qt.
Engine air cleaner	¼ pt.

h. Air Receiver.

(1) *Model OEH–34–60–ENG–1.*

Manufacturer	Roy E. Roth & Co.
Working pressure	200 psi
Shell thickness	.1623
Head thickness	.1494 in.
Maximum temperature	650° F.

(2) *Model LP–512–ENG.*

Manufacturer	Champion Pneumatic Machinery Co.
Working pressure	200 psi
Shell thickness	0.90 in.
Head thickness	0.90 in.
Maximum temperature	450° F.

i. Air Hoses

(1) *Model OEH–43–60–ENG–1.*

Size	5⁄16 in. x 50 ft.
Part Number	Z–538A

(2) *Model LP–512–ENG.*

Size	5⁄16 in. x 25 ft.
Part Number	Z–538

j. Dimensions and Weights.

(1) *Model OEH–34–60–ENG–1.*

Shipping weight	455 lb.
Shipping cube	39.5 cu. ft.
Length	48 in.
Height	44 in.
Width	22 in.
Net weight	405 lb.

(2) *Model LP–512–ENG.*

Shipping weight	215 lb.
Shipping cube	31.2 cu. ft.
Length	48 in.
Height	32 in.
Width	21¾ in.
Net weight	135 lb.

k. Adjustment Data. Adjustment data for the engine can be found in TM 5–2805–206–14.

l. Base Plan. See figure 7.

m. Nut and Bolt Torque Data.

Cylinder flange stud nuts	45 ft.-lb.
Cylinder flange studs	45 ft.-lb.
Unloader to crankcase bolts	40 ft.-lb.
Side plate to crankcase bolts	25 ft.-lb.
Intake manifold stud nuts	60 ft.-lb.
Intake manifold studs	60 ft.-lb.
Exhaust manifold studs	25 ft.-lb.
Exhaust manifold stud nuts	25 ft.-lb.
Connecting rod cap bolt nut	25 ft.-lb.
Flywheel to crankshaft	50 ft.-lb.

n. Performance Data.

Compressor Pump	
Displacement	.0102 cu. ft./stroke at 720 rpm
Delivery	5 cfm
Bore and stroke	3¼ and 1¾ x 2⅛

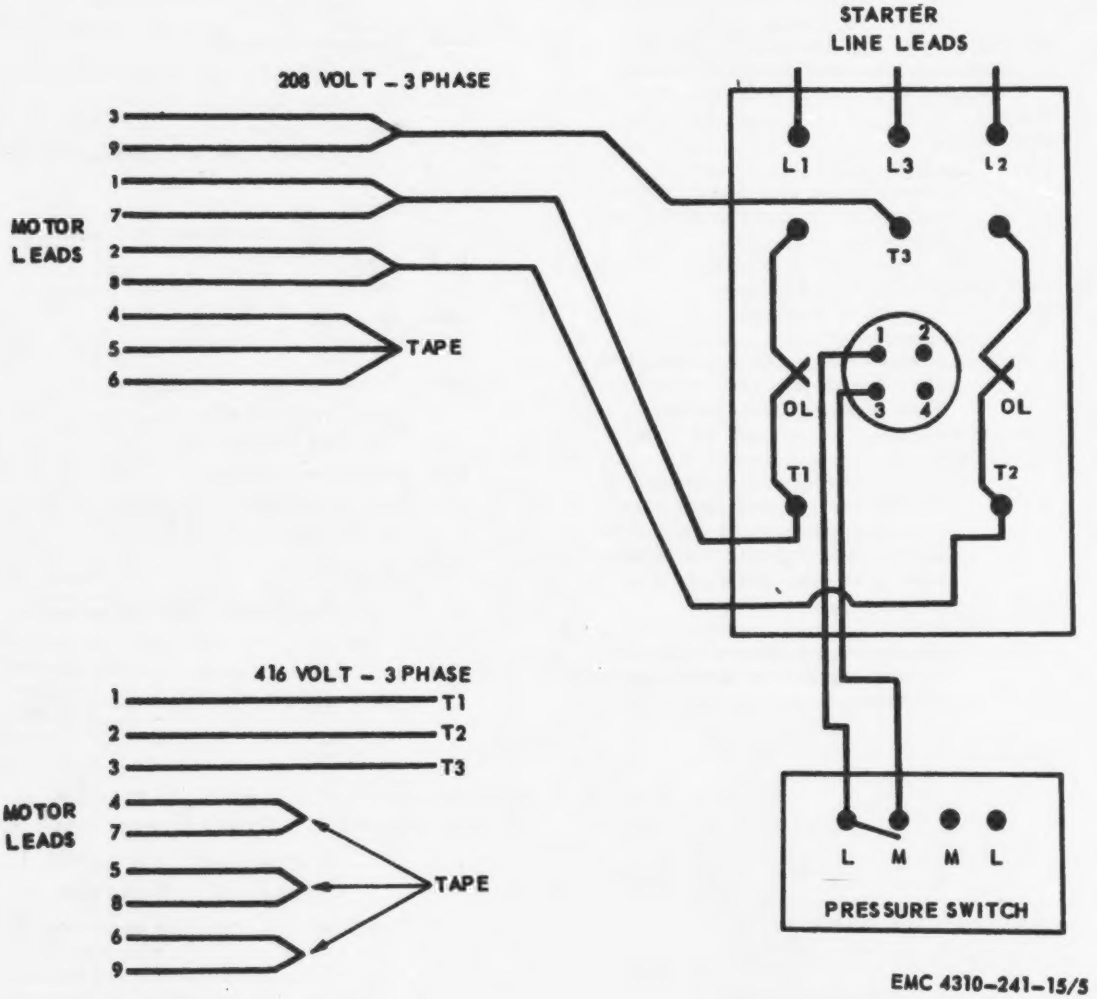
o. Time Standards. Table I lists in hours the time required to service or replace the component parts of these compressors.

Table I. Time Standards

			Hours
	Lubrication and Service		
01	ENGINE		
0100	Engine Assembly		
	Engine, gasoline	(drain and replenish oil in crankcase)	0.5
03	FUEL SYSTEM		
0304	Air Cleaner		
	Air cleaner	(replenish oil and clean element)	0.2
0306	Tanks, Lines		
	Tank	(drain, flush, and refill)	0.2
	Stainer, gas tank	(remove, wash, and install)	0.1
0309	Fuel Filters		
	Strainer assembly, fuel	(drain tank, remove and clean strainer, replace and fill tank)	0.2
50	PNEUMATIC EQUIPMENT		
5000	Air Compressor Assembly		
	Compressor, air	(cleaning)	0.4
5008	Air Intake		
	Air cleaner, dry type	(remove, wash, and install)	0.2
5014	Air Receiver		
	Tank assembly	(drain, flush)	0.4
	Removal and Installation		
01	ENGINE		
0100	Engine Assembly		
	Engine, gasoline	(includes removal and replacement of belt guard, V-belts, pulley)	1.0
03	FUEL SYSTEM		
0304	Air Cleaner		
	Air cleaner		0.2
0306	Tanks, Lines		
	Tank, fuel	(includes removal and replacement of strainer)	0.4
0309	Fuel Filters		
	Strainer assembly, fuel		0.2
04	EXHAUST SYSTEM		
	Muffler		
	Muffler		0.2
13	WHEELS		
1311	Wheel Assembly		
	Wheel assembly		0.2

Table I. Time Standards—Continued

			Hours
	1313	Tires, Tubes	
		Tires and tubes	0.3
15	FRAME		
	1501	Frame Assembly	
		Hand truck assembly	4.0
22	MISCELLANEOUS BODY, HULL, AND ACCESSORY ITEMS		
	2210	Data Plates	
		Plates, instruction, data	0.2
40	ELECTRIC MOTORS		
	4000	Motor	
		Motor, electric (includes removal and replacement of belt guard, V-belts, pulley)	1.0
	4010	Master or Auxiliary Control Assembly	
		Starter, magnetic, with pressure switch	0.7
		Heater, thermal	0.2
47	GAGES		
	4702	Gages	
		Gage, oil (includes draining of oil and refilling, also removal and replacement of one side plate)	0.5
		Gage, pressure, dial indicating	0.1
50	PNEUMATIC EQUIPMENT		
	5000	Air Compressor Assembly	
		Compressor, air (includes removal and replacement of belts, guards, flywheel, intercooler, aftercooler, manifolds, valves)	2.0
	5001	Block	
		Block (includes removal and replacement of cylinder and manifold as an assembly with connecting rods and pistons still in place and complete replacement of all other parts)	2.6
	5002	Crankshaft	
		Crankshaft (includes removal and replacement of flywheel, unloader pilot, side plates, bearings)	2.2
	5004	Pistons, Connecting Rods	
		Piston assembly (includes removal and replacement of cylinder with head, side plates, air cleaner, connecting rods)	1.6
		Rod assembly, connecting (includes removal and replacement of piston assembly)	1.5
	5005	Valves	
		Valve assembly, intake-exhaust (includes removal and replacement of manifolds)	0.7
	5006	Lubrication System	
		Tube, breather	0.2
	5007	Compressor Drive	
		Flywheel, pulley (includes removal and replacement of belts and guard)	0.6
		Belt, V (includes removal and replacement of belt guard)	0.5
		Guard, belt	0.3
	5008	Air Intake	
		Manifold, air intake	0.2
	5009	Unloader System Components	
		Centrifugal unloader	0.7
		Lines and fittings	0.3
	5010	Compressor Cooling	
		Tube, intercooler, aftercooler (includes removal of flywheel)	1.0
	5014	Air Receiver	
		Tank assembly (complete removal of all major assemblies)	1.5
	5015	Air Discharge System	
		Valve, globe	0.1


STARTER LINE LEADS
208 VOLT – 3 PHASE
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1
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2
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TAPE
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L2
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416 VOLT – 3 PHASE
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MOTOR LEADS
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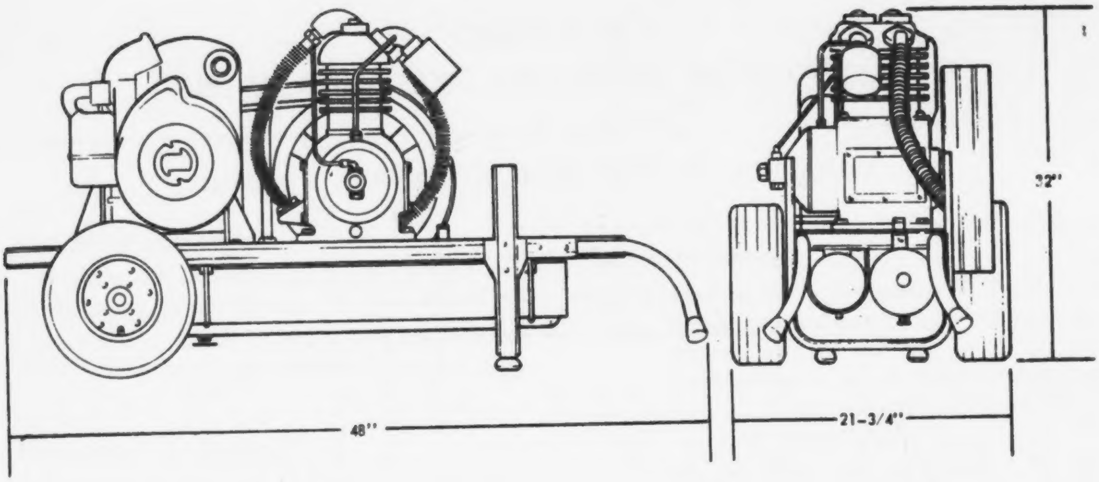
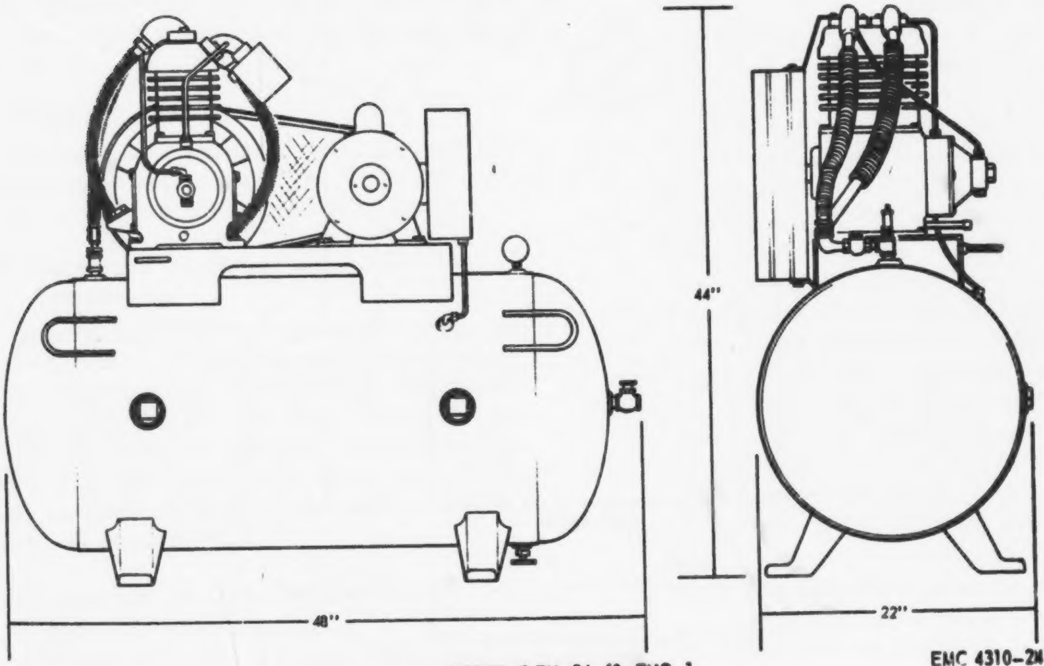
PRESSURE SWITCH
EMC 4310-241-15/5

Figure 5. Wiring diagram (Model OEH-34-60-ENG-1).



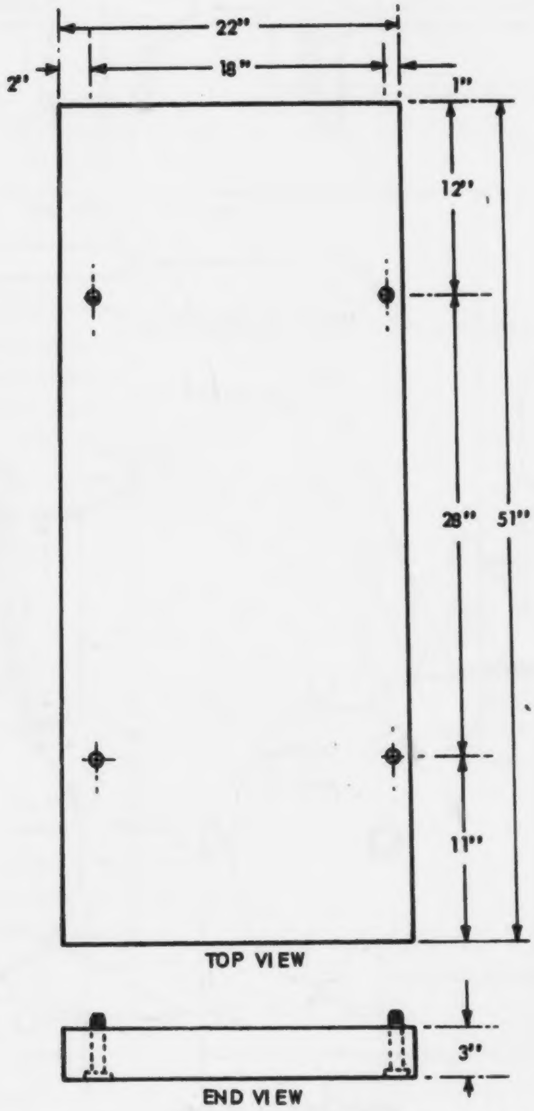
MODEL LP-512-ENG



MODEL OEH-34-60-ENG-1

EMC 4310-2M1-15/6

Figure 6. Shipping dimensions.


22"
18"
2"
1"
12"
28"
51"
11"
TOP VIEW
3"
END VIEW

EMC 4310-241-15/7

Figure 7. Base plan.

CHAPTER 2

INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

7. Unloading Equipment

a. Remove all tiedowns or blocking that secures the crate to the carrier.

b. A forklift, crane, hoist, or rollers may be used to unload the compressors from the carrier.

8. Unpacking Equipment

a. Remove all banding straps or wires from the packing crate or box.

b. Remove the crate or box from the compressor.

Caution: **Exercise care while uncrating to avoid damaging the compressors.**

c. Check the equipment against the packing list and report all discrepancies to field maintenance.

9. Depreservation

Prepare the compressors for inspection and operation as outlined on DA Form 2258, attached on or near the operational controls.

10. Installation of Separately Packed Components

Both models of the air compressors are delivered with an air hose assembly packed separately. Model OEH–34–60–ENG–1 has an inflation gage and a globe valve. They are installed as shown in figure 8. Model LP–512–ENG does not have a globe valve, and the air hose assembly is installed directly in the end of the air receiver tank.

11. Inspection of New Equipment

a. Model OEH–34–60–ENG–1.

(1) Perform the inspection procedure as listed in paragraph 43.

(2) Make a complete visual inspection of the air compressor for any loss or damage that may have occurred during shipment.

(3) Inspect the V-belt guard (5, fig. 3) for dents, breaks, and insecure mounting. Inspect the air receiver tank (7) for dents, breaks, and damage mounting feet. Inspect the draincock for damage and loose mounting. Inspect the air receiver tank platform (6) for bends, dents, and cracked or broken welds.

(4) Inspect the electrical motor (1) for loose connections, damaged wiring cracked housing, and insecure mounting. Inspect the magnetic starter (13) for loose connections and mounting bolts, damaged wiring, and corroded terminal and contact points.

(5) Inspect the compressor (1, fig. 4) for loose mounting bolts, cracks, breaks, and other defects. Inspect the intake air cleaner (2, fig. 3) for evidence of damage, insecure mounting, and clogged air passages.

(6) Inspect the drive belts for incorrect tension and the flywheel and electric motor pulley for incorrect alinement.

(7) Inspect the pressure gage (11, fig. 3) for cracked or broken glass and insecure mounting. Inspect the safety relief valve (8, fig. 4) for loose mounting and improper operation.

(8) Inspect the check valve (9) for damage.

(9) Turn over the electric motor and compressor several times to be sure that the motor and compressor do not bind.

(10) Check the contents of the crate against the packing list to make sure that no items are missing.

(11) Correct all deficiencies or report them to the proper authority.

b. Model LP–512–ENG.

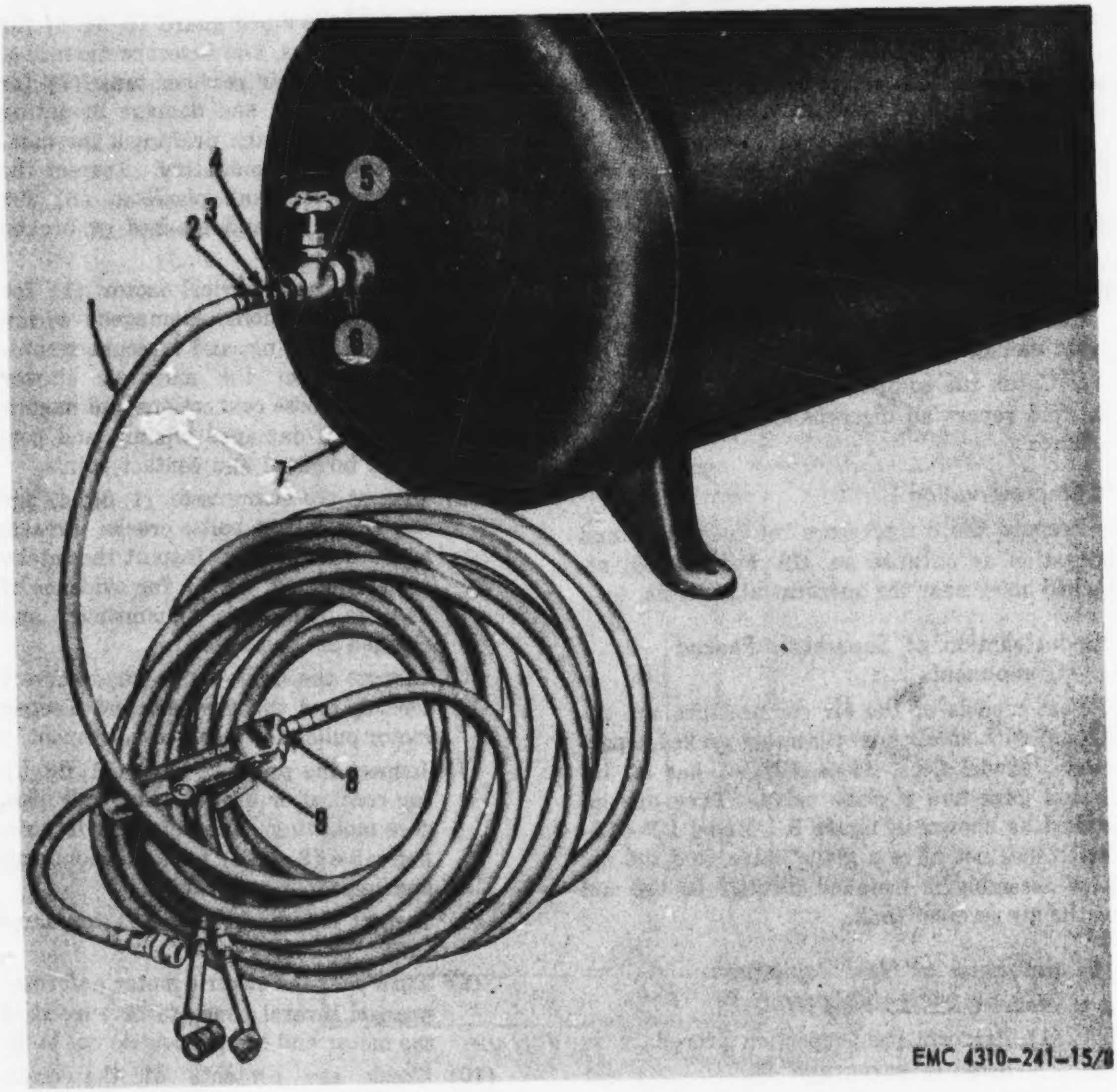
(1) Perform the applicable inspection instructions described in *a* above.

(2) Inspect the fuel tank (7, fig. 1) for holes, dents, and insecure mounting.

(3) Inspect the engine air cleaner and engine muffler for damage and loose mounting.

(5) Inspect the unloader valve (5, fig. 2) for damage and insecure mounting.

(6) Correct all defiiciencies or report them to the proper authority.



1 Air hose
2 Coupling nut
3 Adapter
4 Pipe bushing
5 Globe valve
6 Nipple, pipe
7 Air receiver tank
8 Coupling nut
9 Inflator gage

Figure 8. Globe valve assembly, air hose assembly, and inflator gage, removal points.

12. Servicing New Equipment

a. Model OEH–34–60–ENG–1.

(1) Perform the daily and quarterly preventive maintenance services (pars. 43 and 45).

(2) Lubricate the air compressor in accordance with the current lubrication order.

(3) See that the electric motor (1, fig. 3) and the magnetic starter (13) are wired correctly for the type of current provided (par. 13), and that the service end of the power cable is applicable.

b. Model LP–512–ENG.

(1) Follow the applicable instructions in *a* above.

(2) Remove the fuel tank cap and fill the fuel tank (7, fig. 1) with the proper grade of gasoline. Install the fuel tank cap.

Warning: **Do not fill the fuel tank while the engine is running. Be sure there are no open flames that may ignite the fuel vapors while the tank is being filled. Always provide a metal-to-metal contact between the container and tank to prevent a spark from being generated as gasoline flows over the metallic surfaces.**

13. Equipment Conversion

a. Magnetic Starter Wiring for 208 volts.

(1) Remove cover on electric starter.

(2) Wiring should be as shown in A, figure 9.

(3) Install the relay heaters (10 and 16A, fig. 9) marked F12.6.

b. Magnetic Starter Wiring for 416 volts.

(1) Remove cover on electric starter.

(2) Wiring should be as shown in B, figure 9.

(3) Install the relay heaters (10 and 16, B, fig. 9) marked F7.1.

14. Installation or Setting -up Instructions

a. Model OEH–34–60–ENG–1.

(1) *General.* This compressor is designed for field use or for permanent installation. It requires no special base unless permanently installed. If a permanent base is to be constructed, refer to figure 7.

(2) *Location.* Install the air compressor as near to the incoming source as possible. Avoid muddy, sandy, or dusty locations as a site for installation, if possible, as dirt and moisture shorten the life of all moving parts. If it is necessary to install the unit on soft ground, arrange a foundation of planks or logs.

(3) *Leveling.* The air compressor should be as level as possible when installed. Place blocks, planks, or logs under the unit to level it.

(4) *Grounding.* The air compressor must be grounded prior to operation. The ground lead may be connected to an underground water system; if the water system is constructed of metallic pipe. A ground may be fabricated from a metallic pipe. A ground may be fabricated from a metallic rod driven not less than four feet into the ground. The ground lead must be securely bolted or clamped to the water pipe or ground rod, and the feet or motor platform of the air receiver tank of the air compressor.

(5) *Connecting the Incoming Power Source.*

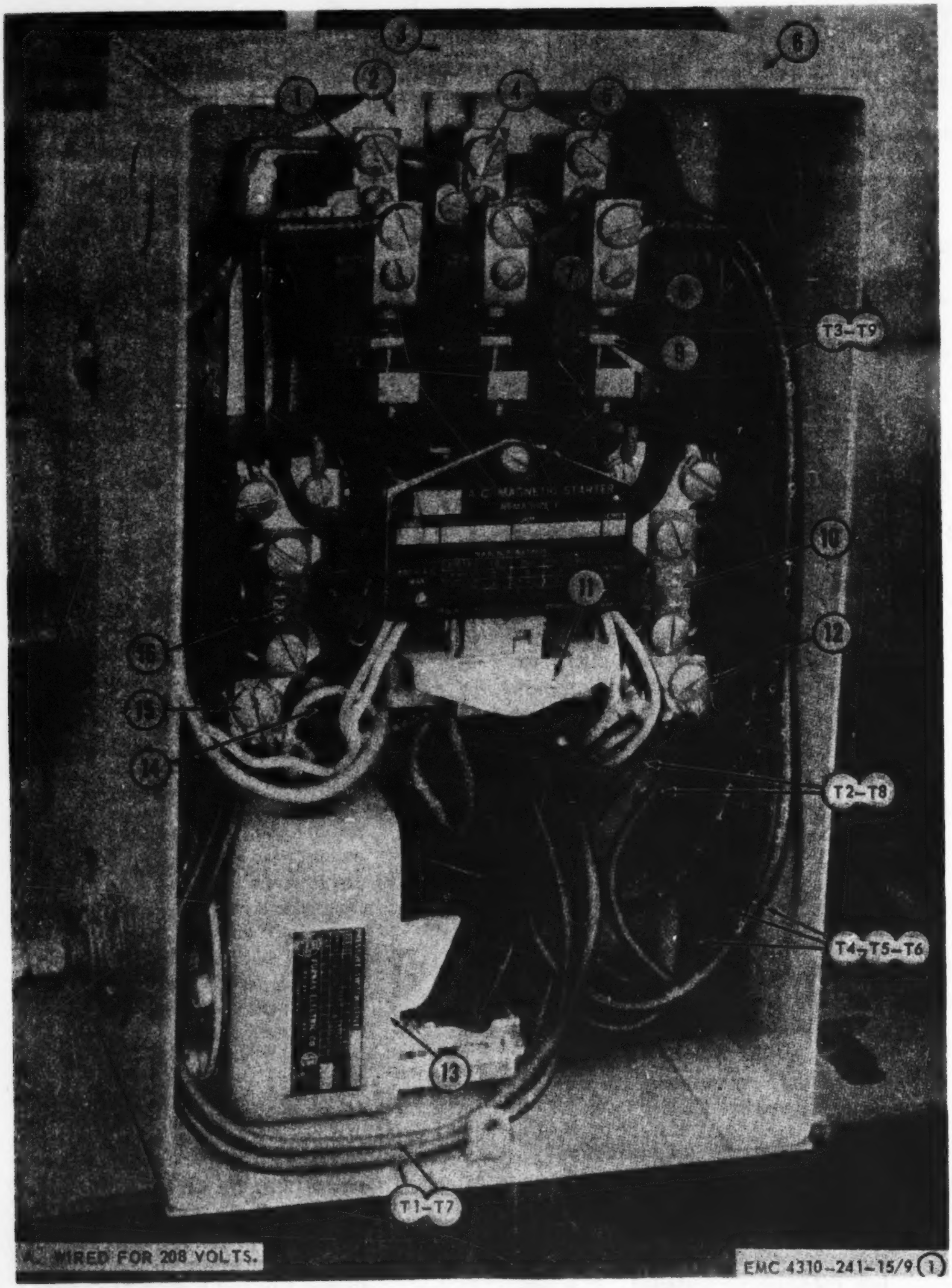
(*a*) Loosen the screw (12, fig. 3) and remove the cover from the magnetic starter (13).

(*b*) Remove the knockout plug from the magnetic starter box and insert the incoming power source wires through the opening.

Warning: **Be sure the incoming power source lines are connected to an emergency switch that is locked in the OFF position before handling the wires.**

(*c*) Insert the bare ends of the incoming power source wires in L1 terminal screw, (1, B, fig. 9), L2 terminal screw (5, B, fig. 9), and L3 terminal screw (3, B, fig. 9), and tighten the terminal screws.

(*d*) Position the cover on the magnetic starter box and tighten the screw.


3
6
1
2
4
5
7
8
9
T3–T9
A. C. MAGNETIC STARTER
10
11
12
16
15
14
T2–T8
T4–T5–T6
13
T1–T7
A. WIRED FOR 208 VOLTS.
EMC 4310-241-15/9 (1)

A—Wired for 208 volts

Figure 9. Magnetic starter.

1 L1 terminal screw
2 Mounting plate
3 Knockout plug
4 L3 terminal screw
5 L2 terminal screw
6 Starter box
7 T3 terminal screw
8 Stationary contact
9 Movazle contact
10 Heater
11 Coil retainer spring
12 T2 terminal screw
13 Pressure switch
14 Overload relay
15 T1 terminal screw
16 Heater

Figure 9—Continued.

(*e*) A plug-in type of connection is provided at the other end of the power cable, and the permanent receptable at the power source is made for either 208 or 416 volts.

b. Model LP–512–ENG.

(1) Follow the applicable instructions in *a* above.

(2) If the air compressor is to be operated within a building or vehicle, pipe the exhaust to the outside. Use as few bends as possible in the exhaust line, and make sure all connections are tight.

Warning: **When operating in an inclosed area, pipe the exhaust gases to the outside by extending the exhaust pipe. The exhaust gases contain carbon monoxide, a colorless, and odorless poisonous gas.**

15. Inspection of Used Equipment

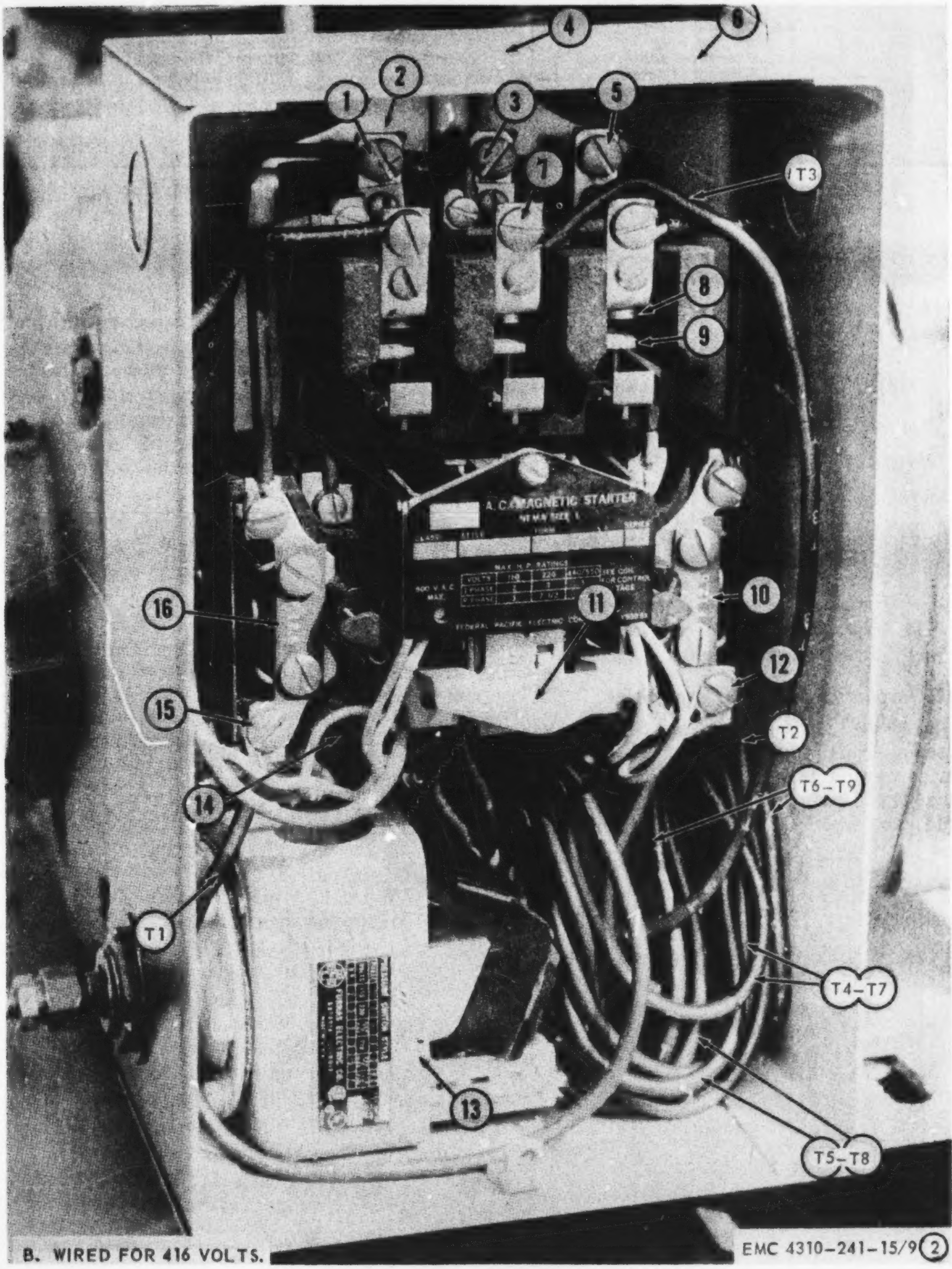
a. Model OEH–34–60–ENG–1. Inspect a used air compressor, following the instructions in paragraph 11. Pay particular attention to the magnetic starter (13, fig. 3), pressure gage (11) air receiver tank platform, mounting feet, draincock, intake air cleaner, or any other parts that might be excessively worn through previous use or damaged during shipment. Correct or report all defiiciencies to the proper authority.

b. Model LP–512–ENG. Inspect the air compressor, following the instructions in paragraph 11. Pay particular attention to the applicable items in *a* above. In addition, carefully inspect the fuel tank, fuel strainer, engine, and unloader valve. Inspect for fuel, oil, or air leaks. Correct or report all defiiciencies to the proper authority.

16. Servicing Used Equipment

a. Model OEH–34–60–ENG–1. Perform the procedures described in paragraph 12. Clean the exterior of the unit thoroughly. Coat the exposed metal surfaces with a film of oil or grease. Correct all deficiencies or report them to the proper authority.

b. Model LP–512–ENG. Perform the procedures describes in *a* above. Pay particular attention to the air cleaner and the fuel lines, fuel tank cap, and strainer. Correct all deficiencies or report them to the proper authority.


4
6
1
2
3
5
7
T3
8
9
A.C. MAGNETIC STARTER
16
11
10
12
15
T2
14
T6–T9
T1
T4–T7
13
T5–T8
B. WIRED FOR 416 VOLTS.
EMC 4310-241-15/9②

B—Wired for 416 volts
Figure 9—Continued.

1 L1 terminal screw
2 Mounting plate
3 L3 terminal screw
4 Knockout plug
5 L2 terminal screw
6 Starter box
7 T3 terminal screw
8 Stationary contact
9 Movable contact
10 Heater
11 Coil retainer spring
12 T2 terminal screw
13 Pressure switch
14 Overload relay
15 T1 terminal screw
16 Heater

Figure 9—Continued.

Section II. CONTROLS AND INSTRUMENTS

17. General

This section describes, locates, illustrates, and furnishes the operator sufficient information pertaining to the various controls and instruments provided for the proper operation of the air compressor.

18. Choke Lever

The choke lever (2, fig. 10), mounted on the engine, is a manually operated lever used to control the amount of air entering the carburetor.

19. Stop Button

The stop button (1, fig. 10), mounted on the magneto, is a rubber-covered, push-type button used to stop the engine.

20. Globe Valve

The globe valve (5, fig. 8), mounted on the end of the air receiver tank (7), is a manually operated valve that controls the flow of compressed air to the air hose (1) and inflator gage (9).

21. Draincock

The draincock, mounted on the underside of the air receiver tank at the front end of the unit, is a manually operated valve used to drain compressed air and condensation from the air receiver tank.

22. Oil Level Gage

The oil level gage mounted in the compressor crankcase, is a direct-reading, glass-covered gage used to check the level of the oil in the compressor crankcase.

23. Pressure Gage

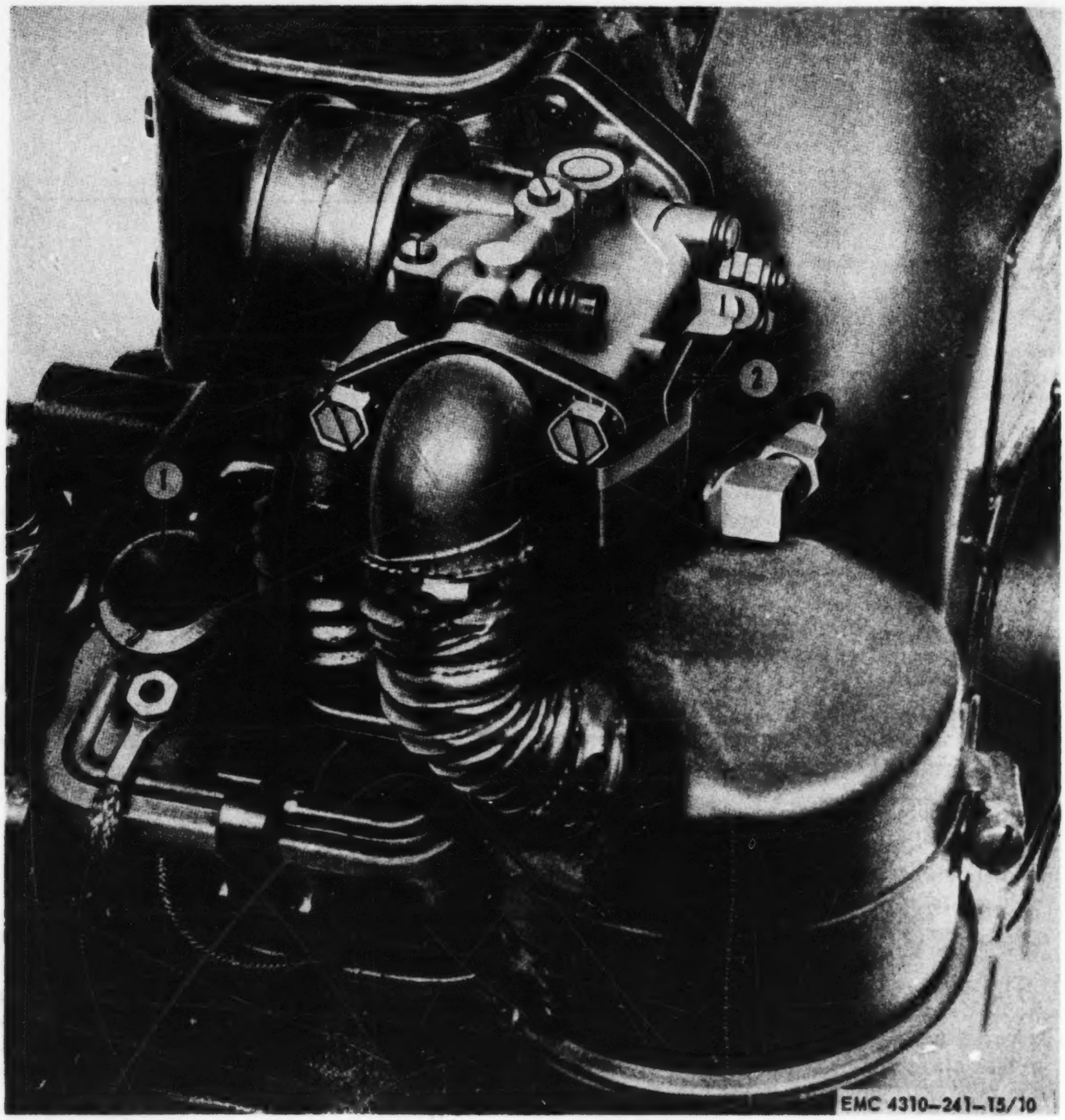
The pressure gage (11, fig. 3), mounted in the top of the air receiver tank, is a needle-indicating, direct-reading pressure-operated gage graduated from 0 to 300 psi in increments of 25 psi. The gage indicates the air pressure in the air receiver tank. Normal operating pressure is 140 to 175 psi.

24. Safety Relief Valve

The safety relief valve (8, fig. 4), is a preset valve that is actuated when the air receiver tank holds a pressure of 200 or more psi. The valve can be tripped manually by pulling up on the ring in the top. It is manually tripped to release pressure in the air receiver tank and to test the valve.

25. Reset Button

The reset button (14, fig. 3), mounted on the cover of the magnetic starter (13) is a manually operated button which, when pushed, resets the thermal relay in the magnetic starter.


2
1
EMC 4310-241-15/10

1 Stop button 2 Choke lever

Figure 10. Engine controls.

Section III. OPERATION UNDER USUAL CONDITIONS

26. General

a. The instructions in this section are published for the use of personnel responsible for the operation of the air compressor.

b. It is essential that the operator know how to perform every operation of which the air compressor is capable. This section gives instruction on starting and stopping, on operating details, and movement to a new work site.

27. Starting

a. Model OEH–34–60–ENG–1.

(1) Perform the daily preventive maintenance services (par. 43).

(2) Inspect the magnetic starter to make sure the electric motor is properly wired for the incoming power source (par. 13).

(3) Apply the incoming power source to the electric motor.

Note. Should the compressor fail to start, depress the reset button. If the compressor still does not start, report the conditions to the proper authority.

b. Model LP–512–ENG.

(1) Perform the daily preventive maintenance services (par. 43).

(2) Open the draincock (3, fig. 2) in the bottom of the air receiver tank (4).

(3) Close the choke lever (2, fig. 10) by moving it toward the air intake elbow as far as it will go.

(4) Wind the starter rope clockwise around the starter rope pulley. With a quick, steady pull, start the engine. Repeat if necessary.

(5) When engine starts, allow it to run for several minutes, gradually opening the choke lever all the way.

(6) When the engine is warm, close the draincock in the bottom of the air receiver tank.

28. Stopping

a. Model OEH–34–60–ENG–1.

(1) Close the globe valve (5, fig. 8).

(2) Turn off the outside power source.

(3) Open the draincock in the bottom of the air receiver tank to blow the compressed air and condensate from the air receiver tank.

(4) Close the draincock.

b. Model LP–512–ENG.

(1) Press in on the stop button (1, fig. 10).

(2) Open the draincock (3, fig. 2) in the bottom of the air receiver tank (4) to blow the compressed air and condensate from the air receiver tank.

(3) Close the draincock.

29. Operating Details

a. General. The air compressors are used by personnel for the quick inflation of tires, cleaning parts, spraying paint, operating grease guns, or any other operation within the capabilities of the equipment. Model OEH–34–60–ENG–1 will continue to cycle as long as the electric motor is supplied with current. Model LP–512–ENG will continue to cycle as long as fuel is fed to the engine.

b. Air-Pressure Adjustment, Model OEH–34–60–ENG–1.

(1) Start the air compressor (par. 27) to determine adjustment. Shut off the outside power source, if adjustment is necessary.

(2) Remove the cover from the magnetic starter (par. 13).

(3) To raise CUT-IN and CUTOUT pressure, turn the pressure adjusting screw clockwise.

(4) To decrease the difference between the CUT-IN and CUTOUT pressure, turn the differential screw counterclockwise.

Caution: **When adjusting the differential screw do not turn it farther than it will turn easily.**

(5) To increase the differential and maintain the same CUTOUT pressure, turn the differential screw clockwise and, at the same time, turn the pressure adjusting screw counterclockwise.

Note. If the differential is increased only by turning the differential screw clockwise, the CUT-IN pressure changes only slightly, and the CUTOUT pressure rises.

(6) Turn the outside power source on to check adjustment. To check the CUT-IN pressure, open the draincock and allow the air pressure to drain below 140 pounds. Close the draincock, the compressor should start.

(7) Install the cover on the magnetic starter (par. 13).

c. Air-Pressure Adjustment, Model LP–512–ENG.

(1) Start the air compressor (par. 27).

Note. Air-pressure control is controlled by the unloader valve (5, fig. 2). For normal operation, the valve is set to unload when the air pressure reaches 175 psi.

(2) To increase the pressure at which the unloader valve will open, turn down the hex nut on the threaded top of the unloader valve. Loosen the hex nut to decrease pressure.

30. Movement to a New Work Site

a. Model OEH–34–60–ENG–1.

(1) Build up the pressure in the air receiver tank.

(2) Shut off the incoming power source leading to the electri cmotor (1, fig. 3).

(3) Open the draincock (8) and blow the condensate from the air receiver tank. Close the draincock.

(4) Loosen the screw (12) and remove the cover from the magnetic starter (13). Disconnect the incoming power source from the magnetic starter. Install the cover on the magnetic starter.

(5) Remove the air hose assembly and globe valve from the air receiver tank. Cover the globe valve mount in the air receiver tank.

(6) Lift the air compressor and accessories on a suitable carrier and block and tie it down, using the tiedown eyebolts.

(7) Move the air compressor to the new work site. Unload it and set it up for operation following the instructions in paragraph 14.

b. Model LP–512–ENG.

(1) Build up the pressure in the air receiver tank (4, fig. 2) to a pressure just below 140 psi.

(2) Stop the engine (par. 28). Open the draincock (3) and blow the condensate from the air receiver tank. Close the draincock.

(3) Remove the bail assembly from the fuel strainer. Drain the fuel tank.

(4) Remove the air hose assembly from the air receiver tank. Cover the hose mount in the air receiver tank.

(5) Lift the air compressor and accessories on a suitable carrier and block and tie it down, using the tiedown eyebolts.

(6) Move the air compressor to the new work site. Unload it and set it up for operation, following the instructions in paragraph 14.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

31. Operation in Extreme Cold (Below 0° F.)

a. Model OEH–34–60–ENG–1.

(1) Locate the air compressor in a shed or building whenever possible. If the unit is operated outdoors, protect it from prevailing winds and cover it with a paulin when not in use.

(2) Lubricate the air compressor according to the current lubrication order.

(3) Avoid excessive handling, kinking, and sharp bending of the air hose, which will become brittle at low temperatures.

(4) Clean and tighten all wiring connections. Make sure there are no short circuits. As wiring insulation tends to become brittle at low temperatures, avoid excessive handling and sharp bending of wires. Protect the electric motor and magnetic starter from snow and ice.

b. Model LP–512–ENG.

(1) Perform the procedures described in *a*(1) and (3) above.

(2) Keep all fuel tanks and storage containers filled with fuel to prevent formation of ice crystals from the freezing of condensate. Such crystals will clog fuel lines and carburetor jets. Use filter paper, chamois, or other type strainer when filling the fuel tank or transferring fuel from one container to another.

Warning: **Always provide a metallic contact between the fuel container and the fuel tank. This will prevent a spark from being generated as the gasoline flows over metallic surfaces.**

32. Operation in Extreme Heat

a. Model OEH–34–60–ENG–1.

(1) Lubricate the compressor in accordance with the current lubrication order.

(2) Keep the electric motor, compressor, and air receiver tank clean.

(3) Check the drive-belt tension frequently. Improper drive-belt tension often results in overheating.

(4) Locate the air compressor in an operating area that is well ventilated or provide intake and exhaust fans to ventilate inclosed areas.

b. Model LP–512–ENG.

(1) Perform the applicable instructions in *a* above.

(2) Fill the fuel tank at the end of each days operation, especially in areas where the temperature drops sharply at night. This will prevent condensation from forming in the fuel tank.

33. Operation in Dusty or Sandy Areas

a. Model OEH–34–60–ENG–1.

(1) Lubricate the air compressor in accordance with the current lubrication order. Be sure that all lubrication points are free from dirt and sand before applying lubricant. Keep all lubricant containers clean and tightly closed. Do not lubricate excessively as dirt and sand will adhere to excess lubricant and may work into moving parts. Wipe off all lubrication points after lubricating.

(2) Keep the motor, magnetic starter, compressor, and air receiver tank free from accumulations of dirt and sand. Use compressed air for cleaning or a stiff brush where deposits are oily, gummy, or heavy.

(3) Protect the air compressor from dust with screens, shelters built from paulins, or other dustproof material. Keep the unit covered when not in use

(4) Clean the compressor air cleaner more often than when operating under normal conditions.

b. Model LP–512–ENG.

(1) Perform the applicable instructions in *a* above.

(2) Take adequate precautions to prevent sand and dirt from entering the fuel tank. Service the fuel strainer as often as necessary to keep the bowl free from dirt and sand. Clean the engine air cleaner more often than usual.

34. Operation in Salt Water or High Humidity Areas

a. Model OEH–34–60–ENG–1.

(1) Protect the unit with a shelter of some kind. Keep the sides open for ventilation.

(2) Wipe the unit dry at frequent intervals, with particular emphasis on the electric motor and magnetic starter. If the unit becomes encrusted with salt, wash it with fresh water, taking care not to damage the electrical system with water.

(3) Make sure all surfaces requiring lubrication are clean and dry before applying lubricant. Lubricate the unit in accordance with the current lubrication order.

(4) Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulations of rust.

(5) Open the draincock frequently to blow condensate from the air receiver tank.

b. Model LP–512–ENG.

(1) Perform the applicable, instructions in *a* above.

(2) When washing salt from the unit, do not contaminate the fuel system with water.

(3) Service the engine air cleaner more frequently.

35. Operation at High Altitudes

a. Model OEH–34–60–ENG–1.

(1) The air compressor is designed to operate efficiently at elevations up to 5,000 feet. There will be a reduction in efficiency because of the rarified air at this level. This is a normal condition that cannot be prevented.

(2) Make sure the unit is supplied with quantities of fresh air. Do not operate it in an enclosed area that does not have ample ventilation.

b. Model LP–512–ENG.

(1) Perform the applicable instructions in *a* above.

(2) Fill the fuel tank at the end of each day's operation to prevent condensation of moisture in the fuel tank.

(3) Adjust the carburetor to compensate for the reduced amount of oxygen available to the carburetor (TM 5–2805–206–14).

Section V. OPERATION OF MATERIAL USED IN CONJUNCTION WITH THE AIR COMPRESSOR

36. Fire Extinguisher (Dry Chemical Type)

a. Description. A dry chemical-type extinguisher may be provided with the equipment. It is a 2½ pound hand-operated extinguisher.

b. Operation.

(1) Remove fire extinguisher from bracket.

(2) Aim nozzle toward base of flame and squeeze handle trigger.

(3) When fire is out, continue discharging extinguisher to be certain that hot materials are completely coated with chemical from the fire extinguisher to prevent rekindling of flame.

c. Maintenance.

(1) Completely discharge fire extinguisher and notify the proper authority.

(2) Replacement must be made prior to further operation of the equipment Refer to TM–5–687 and TM 9–1799.

37. Fire Extinguishers (Carbon Types)

a. Carbon-Tetrachloride Type.

(1) *Description.* A carbon tetrachloride fire extinguisher may be provided with the equipment. It is a vaporizing, liquid-type, pump-operated extinguisher having a capacity of one quart.

(2) *Operation.* Remove the fire extinguisher from its location; turn the handle and work the handle like a pump. Direct the stream at the base of the flame.

Warning: **The fumes developed by the chemical reaction of heat and carbon tetrachloride are deadly. Take care not to inhale these fumes. Exercise caution when extinguishing fires in unventilated or confined areas.**

(3) *Refilling and Maintenance.* For a detailed information on refilling and maintenance, refer to TM 5–687 and TM 9–1799.

b. Carbon-Dioxide Type.

(1) *Description.* The carbon-dioxide type fire extinguisher is suitable for use on electrical and flammable liquid fires. The carbon-dioxide types are of the 5-pound and 15-pound sizes. The 5-pound extinguisher is portable, the other is of the fixed type.

(2) *Operation.* Remove the fire extinguisher from its location, break the seal, operate the control valve, and direct the stream of contents at the base of the flame.

(3) *Refilling and Maintenance.* For detailed instructions on refilling and maintenance, refer to TM 5–687 and TM 9–1799.

CHAPTER 3

OPERATING AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SPECIAL TOOLS AND LUBRICANTS

38. Operator's Tools and Equipment

a. There are no special tools for equipment required to perform operator's maintenance.

b. The basic issue items supplied with the air compressor model OEH-34-60-ENG-1 and Model LP-512-ENG are listed in appendix III.

39. Special Organizational Tools and Equipment

There are no special tools or equipment required to perform organizational maintenance.

40. General Lubrication Information

This section contains the current lubrication order shown in figure 11.

41. Detailed Lubrication Information

a. Care of Lubricants and Lubricating Equipment. Keep all lubricants in closed containers and store in a clean, dry area away from heat. Do not allow dirt, dust, water or any other foreign materials to come into contact with the lubricants. Keep all lubrication equipment clean and ready for use.

b. Cleaning. Use an approved cleaning solvent to wipe all surfaces clean around the point of application before applying the lubricant.

c. Points of Application. The points of lubrication are illustrated in figure 11. Follow the detailed lubrication instructions given beneath each lubrication point illustration indicating procedures to be followed at each point. Apply only those lubricants specified on the lubrication chart.

d. Engine on Air Compressor, Model LP-512-ENG. Refer to TM 5-2805-206-14 for detailed engine lubrication.

LUBRICATION ORDER **LO 5-4310-241-15**

20 JULY 1962

COMPRESSOR RECIPROCATING: AIR; 5 CFM; 175 PSI; HAND TRUCK MOUNTED; GASOLINE DRIVEN (CHAMPION PNEUMATIC MODEL LP-512-ENG) AND COMPRESSOR RECIPROCATING: AIR; 5 CFM; 175 PSI; RECEIVER MOUNTED ELECTRIC DRIVEN (CHAMPION PNEUMATIC MODEL OEH-34-60-ENG-1)

Reference: LO 5-2805-206-14, SM 10-1-C4-1

Intervals are based on normal hours of operations. Reduce to compensate for abnormal operations and severe conditions. During inactive periods sufficient lubrication must be performed for adequate preservation.

Relubricate after washing.

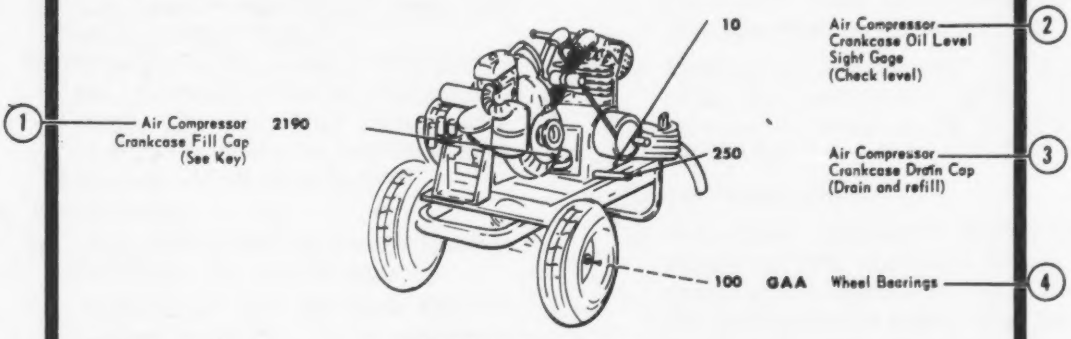
Clean fittings before lubricating.

Clean parts with SOLVENT, dry-cleaning, or with OIL, fuel, Diesel. Dry before lubricating.

Lubricate points indicated by dotted arrow shafts on both sides of equipment.

Drain crankcase when hot. Fill and check level.

LUBRICANT • INTERVAL **INTERVAL • LUBRICANT**


10
Air Compressor Crankcase Oil Level Sight Gage (Check level) ②
① Air Compressor Crankcase Fill Cap (See Key) 2190
250
Air Compressor Crankcase Drain Cap (Drain and refill) ③
100 GAA Wheel Bearings ④

MODEL LP - 512 ENG

CONTINUED ON FOLLOWING PAGE

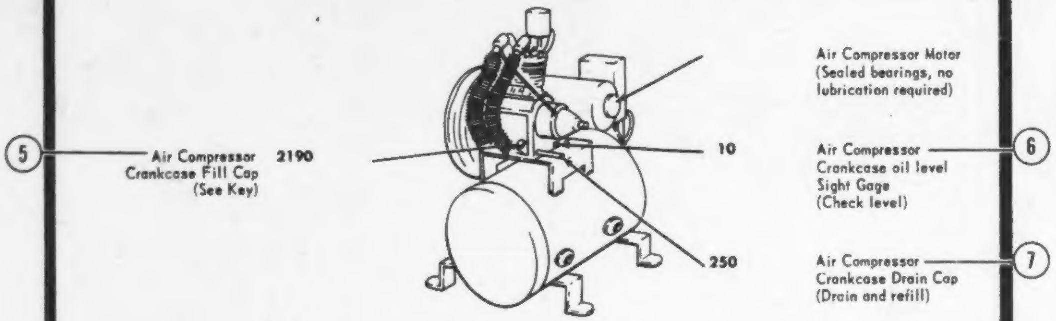
EMC 4310-241-15/11 ①

Front

Figure 11. Lubrication order.

CONTINUED FROM
PRECEDING PAGE

LUBRICANT • INTERVAL **INTERVAL • LUBRICANT**


⑤ Air Compressor Crankcase Fill Cap (See Key) 2190
10
250
Air Compressor Motor (Sealed bearings, no lubrication required)
Air Compressor Crankcase oil level Sight Gage (Check level) ⑥
Air Compressor Crankcase Drain Cap (Drain and refill) ⑦

MODEL OEH-34-60-ENG-1

— KEY —

LUBRICANT	CAPACITY	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F	+40°F to −10°F	0°F to −65°F	
2190—LUBRICATING OIL, General Purpose		2190	2110	2075	Intervals given are in hours of normal operation.
Air Compressor Crankcase	1 qt				
GAA—GREASE, Automotive and Artillery		All Temperatures			

NOTES:

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW −10°F. Remove lubricants prescribed in the key for temperatures above −10°F. Clean parts with SOLVENT, dry-cleaning. Relubricate with lubricants specified in the key for temperatures below −10°F.

Copy of this Lubrication Order will remain with the equipment at all times; instructions contained herein are mandatory.

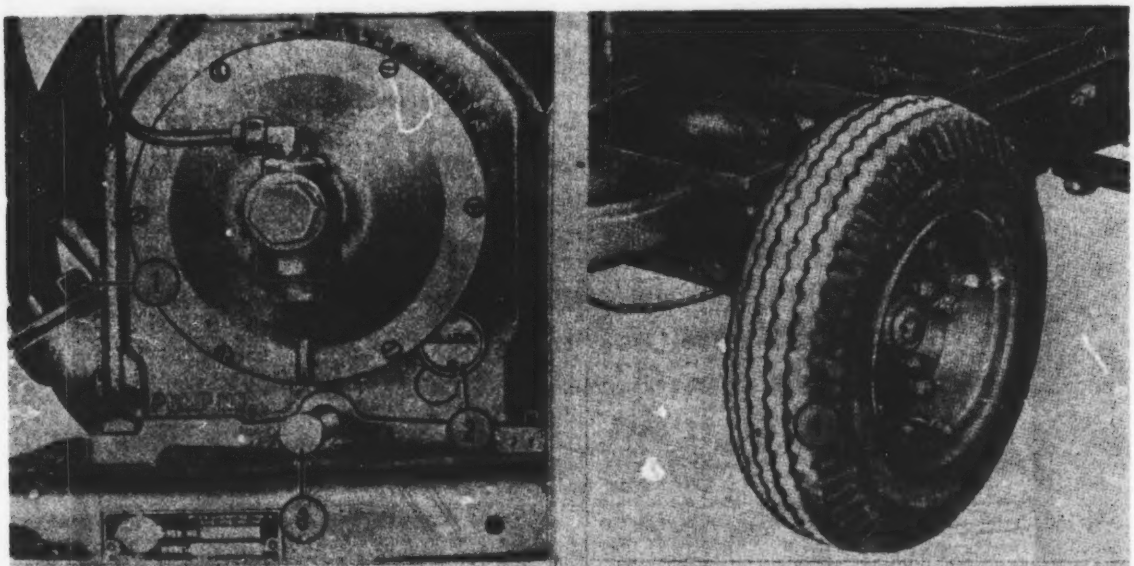
BY ORDER OF THE
SECRETARY OF THE ARMY:

G. H. DECKER,
General, United States Army,
Chief of Staff.

OFFICIAL:
J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

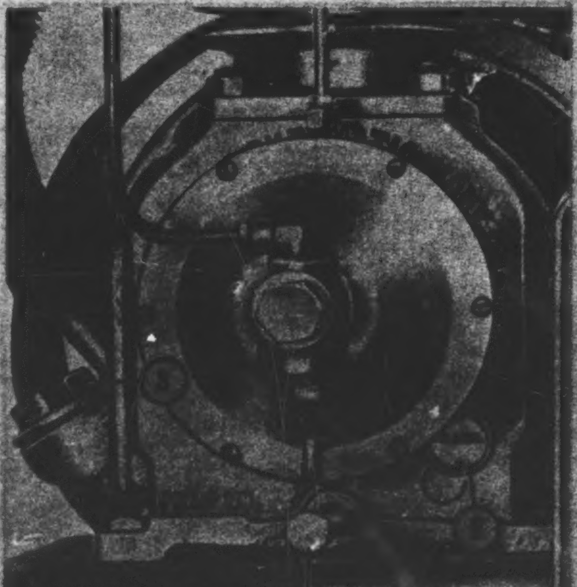
EMC 4310-241-15/11 ②

Back
Figure 11—Continued.



REF. 1. AIR COMPRESSOR CRANKCASE FILL CAP
REF. 2. AIR COMPRESSOR CRANKCASE OIL LEVEL SIGHT GAGE
REF. 3. AIR COMPRESSOR CRANKCASE DRAIN CAP

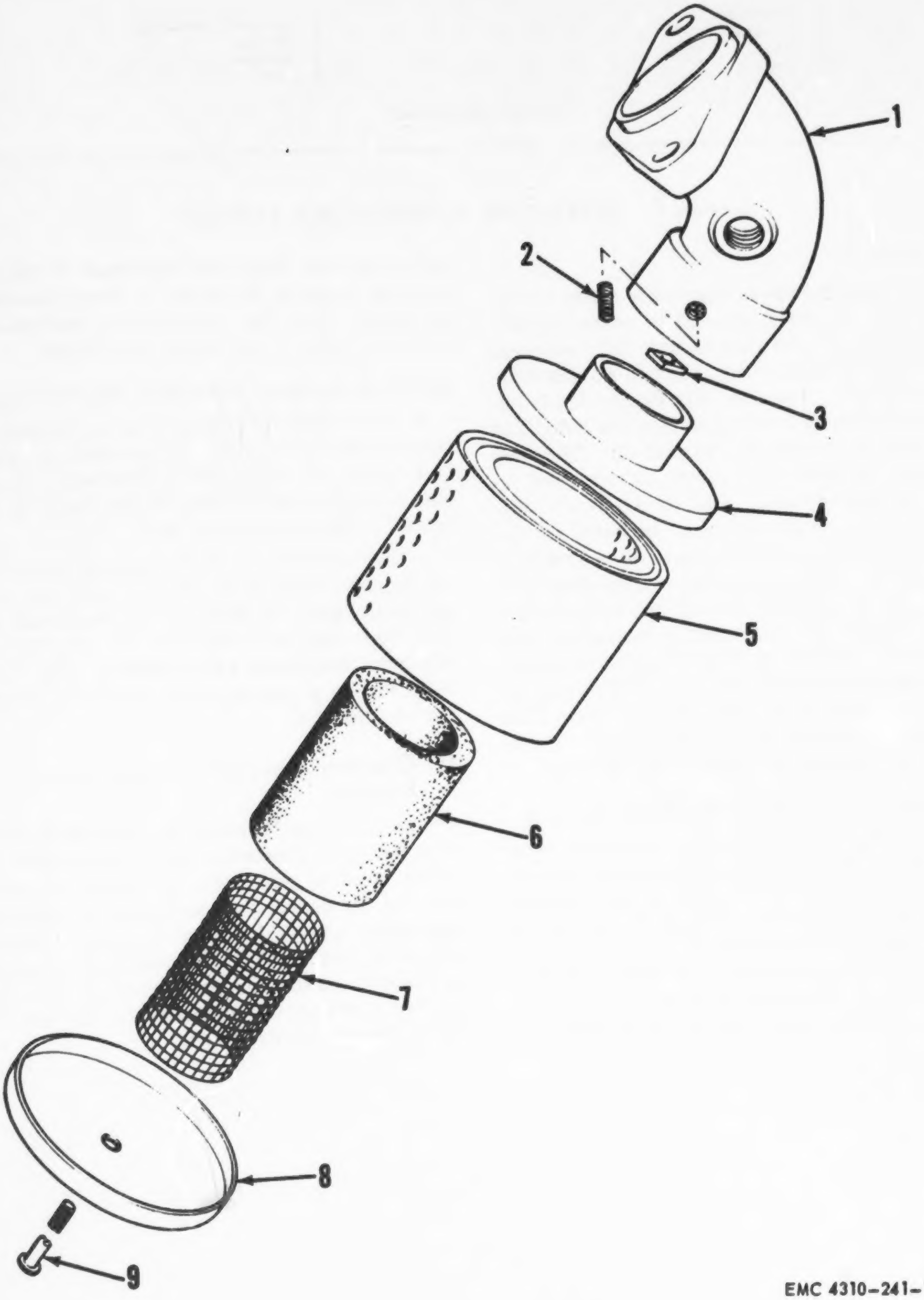
REF. 4. WHEEL BEARINGS



REF. 5. AIR COMPRESSOR CRANKCASE FILL CAP
REF. 6. AIR COMPRESSOR CRANKCASE OIL LEVEL SIGHT GAGE
REF. 7. AIR COMPRESSOR CRANKCASE DRAIN CAP

EMC 4310-241-15/11 ③

Point of Lubrication
Figure 11—Continued.



EMC 4310-241-15/12

Figure 12. Intake air cleaner, exploded view.

1 Manifold
2 Setscrew
3 Nut
4 Top
5 Plate
6 Element, scottfoam
7 Screen
8 Bottom
9 Bolt

Figure 12—Continued.

Section II. PREVENTIVE MAINTENANCE SERVICES

42. General

To insure that the equipment is ready for operation at all times, it must be inspected systematically, so that defects may be discovered and corrected before they result in serious damage or failure. The necessary Preventive Maintenance Services to be performed are listed and described in paragraphs 43 and 45. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the unit shall be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noticed during operation which would damage the equipment if operation were continued. Defects or unsatisfactory operating characteristics beyond the scope of the operator to correct must be reported on DA Form 2404 (Equipment Inspection and Maintenance Work-Sheet) at the earliest possible opportunity.

43. Daily Preventive Maintenance Services

This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed daily by the operator to insure that the air compressor is combat serviceable. Daily services retain the same item numbers used to quarterly preventive maintenance services. Therefore daily preventive maintenance services may not be numbered consecutively but should be performed in the numerical sequence as shown to insure complete coverage. For Daily Preventive Maintenance Services refer to the charts that follow.

44. Organizational Preventive Maintenance

a. Preventive maintenance is performed by organizational maintenance personnel at quarterly intervals. A quarterly interval is equivalent to 3 calendar months, or 250 hours of operation, whichever occurs first.

b. The preventive maintenance service to be performed at quarterly intervals are listed consecutively and are described in paragraph 45. The item numbers indicate the sequence of minimum inspection requirements. DA Form 2404 will be prepared when inspection reveals any deficiencies.

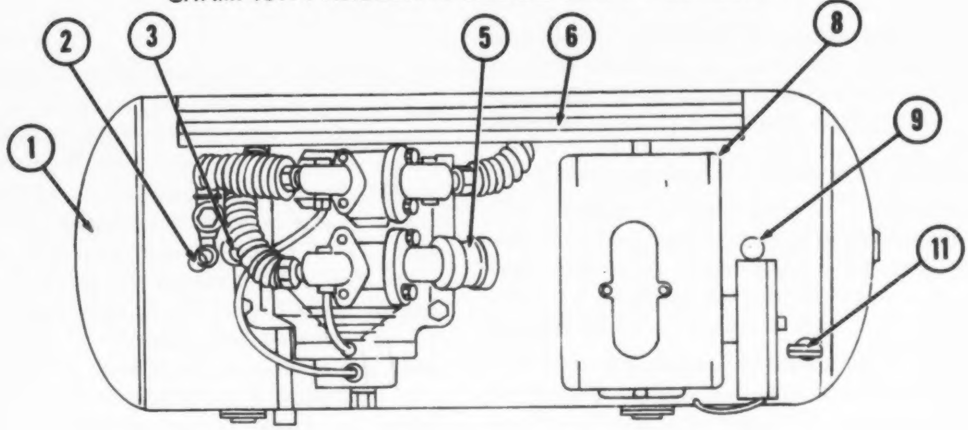
45. Quarterly Preventive Maintenance Services.

This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed quarterly to insure that the air compressor is combat serviceable. Quarterly preventive maintenance services should be performed in the numerical sequence as shown to insure complete coverage. For the quarterly preventive maintenance services refer to the charts that follow.

PREVENTIVE MAINTENANCE SERVICES
DAILY

TM 5-4310-241-15 COMPRESSOR

CHAMPION PNEUMATIC MODEL OEH 34-60-ENG-1



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	AIR RECEIVER TANK. Drain water from tank.	
2	SAFETY RELIEF VALVE. Inspect for improper operation. Pull ring to check for freedom of movement.	
3	OIL FILLER CAP. Check oil level. Service as required. Ref. L.O.	
5	AIR CLEANER. Inspect for insecure mounting and internal obstruction. Service as required. (50 Hours)	
6	DRIVE BELTS. Inspect for improper tension. Belt deflection is 3/4 to 1 inch midway between pulleys. (Weekly)	
8	GROUND CONNECTION. Inspect for improper and insecure ground connections.	
9	FIRE EXTINGUISHER. Inspect for full charge, proper working condition and secure mounting. (Weekly)	

ITEM		PAR REF
11	CONTROLS AND INSTRUMENTS. Inspect for damage and insecure mounting. With the unit operating inspect for improper operation. Normal operating pressure is 140-175 psi.	
	NOTE 1. OPERATION. During operation observe for any unusual noises and vibrations.	

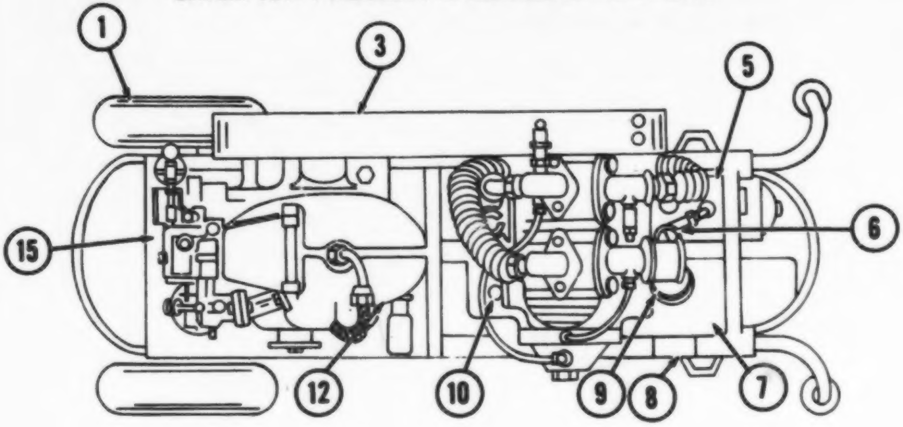
EMC 4310-241-15/12.1

PREVENTIVE MAINTENANCE SERVICES

DAILY

TM 5-4310-241-15 COMPRESSOR

CHAMPION PNEUMATIC MODEL LP 512-ENG



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	TIRES AND TUBES. Check air pressure. Proper pressure is 25 psi. (Weekly)	
3	DRIVE BELTS. Inspect for improper tension. Belt deflection is 3/4 to 1 inch midway between pulleys. (Weekly)	
5	AIR RECEIVER TANK. Drain water from the tank.	
6	SAFETY RELIEF VALVE. Inspect for improper operation. Pull ring to check for freedom of movement.	
7	FUEL TANK. Check fuel level.	
8	FIRE EXTINGUISHER. Inspect for full charge and proper working condition. (Weekly)	
9	AIR CLEANER. Inspect for insecure mounting and internal obstructions. Service as required. (50 Hours)	
10	FILLER PLUG. Check oil level. Service as required. Ref. L.O.	

ITEM		PAR REF
12	DIPSTICK. Check oil level. Add oil as indicated on dipstick. Reference LO 5-2805-206-14	
15	CONTROLS AND INSTRUMENTS. Inspect for damage and insecure mounting. With the unit operating inspect for improper operation. Normal operating pressure is 140-175 psi.	
	NOTE 1. OPERATION. During operation observe for any unusual noise or vibration.	

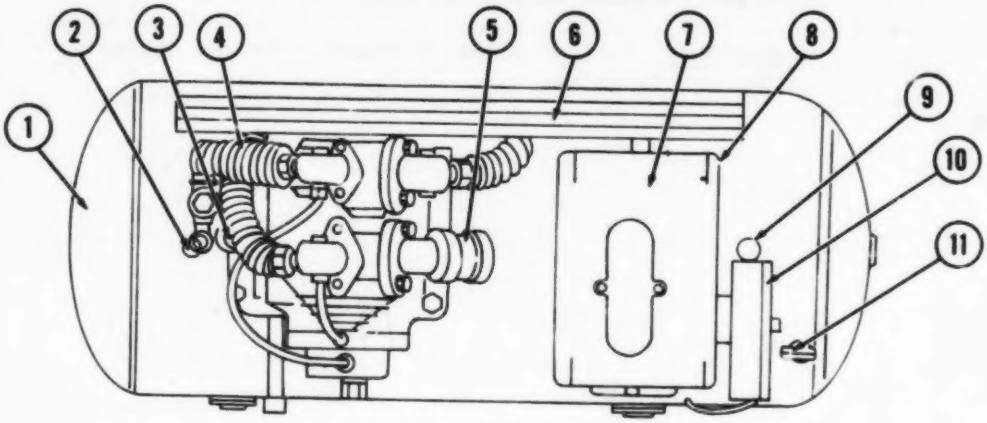
EMC 4310-241-15/12.2

PREVENTIVE MAINTENANCE SERVICES QUARTERLY

TM 5-4310-241-15

COMPRESSOR

CHAMPION PNEUMATIC MODEL OE H 34-60-ENG-1



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

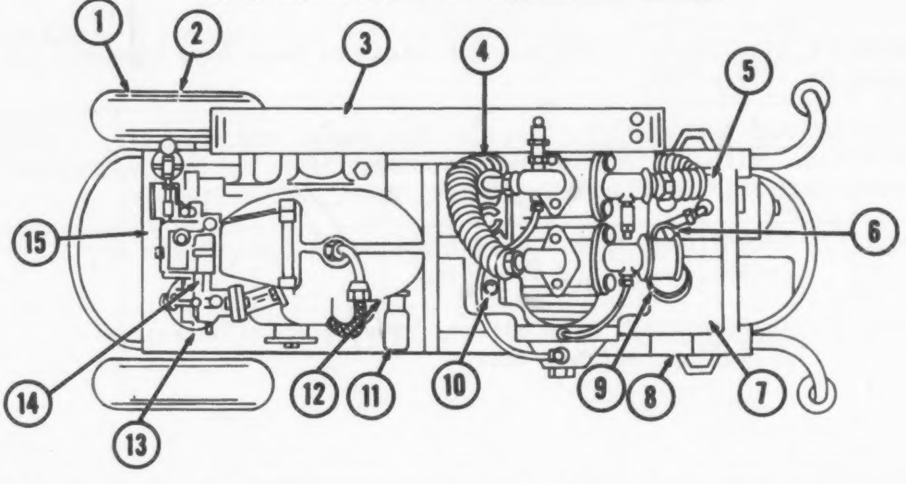
ITEM		PAR REF
1	**AIR RECEIVER TANK**. Inspect for leaks and damage. Drain water from tank.	
2	**SAFETY RELIEF VALVE**. Inspect for improper operation and insecure mounting. Max.pressure is 200 pounds.	
3	**OIL FILLER CAP**. Check oil level. Service as required. Ref.L.O.	
4	**AFTERCOOLER AND INTERCOOLER**. Inspect for leaks and loose connections.	
5	**AIR CLEANER**. Inspect for insecure mounting and internal obstruction. Service as required.	
6	**DRIVE BELTS**. Inspect for improper tension, excessive wear, and cracked or frayed conditions. Belt deflection is 3/4 to 1 inch midway between pulleys.	
7	**ELECTRIC MOTOR**. Inspect for improper operation, loose or missing hardware.	

ITEM		PAR REF
8	GROUND CONNECTION. Inspect for improper and insecure ground connections.	
9	FIRE EXTINGUISHER. Inspect for full charge, proper working condition and secure mounting.	
10	MAGNETIC STARTER BOX. Inspect for insecure mounting, frayed, loose or oily wiring.	
11	CONTROLS AND INSTRUMENTS. Inspect for damage and insecure mounting. With the unit operating inspect for improper operation. Normal operating pressure is 140-175 psi.	
	NOTE 1. OPERATIONAL TEST. During operation observe for any unusual noise and vibration.	
	NOTE 2. ADJUSTMENTS. Make all adjustments found necessary during operational test.	

PREVENTIVE MAINTENANCE SERVICES
QUARTERLY

TM 5-4310-241-15 COMPRESSOR

CHAMPION PNEUMATIC MODEL LP 512 ENG



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	TIRES AND TUBES. Inspect for cuts, foreign objects and damage. Check air pressure. Proper pressure is 25 psi.	
2	WHEELS. Inspect for loose or missing hardware. Service as required.	
3	DRIVE BELTS. Inspect for improper tension, excessive wear, and cracked or frayed conditions. Belt deflection is 3/4 to 1 inch midway between pulleys.	
4	AFTERCOOLER AND INTERCOOLER. Inspect for leaks, damage and loose connections.	
5	AIR RECEIVER TANK. Inspect for leaks and damage. Drain water from the tank.	
6	SAFETY RELIEF VALVE. Inspect for improper operation and insecure mounting. Max. pressure is 200 psi.	
7	FUEL TANK. Check fuel level. Inspect for leaks, loose and missing hardware.	

ITEM		PAR REF
8	FIRE EXTINGUISHER. Inspect for full charge and broken seal.	
9	COMPRESSOR AIR CLEANER. Inspect for insecure mounting and internal obstructions. Remove clean and install.	
10	FILLER PLUG. Check oil level. Add oil as indicated in sight glass. Reference L.O.	
11	MUFFLER. Inspect for leaks and insecure mounting.	
12	DIPSTICK. Check oil level. Add oil as indicated on dipstick. Reference LO 5-2805-206-14	
13	ENGINE AIR CLEANER. Check oil level. Add oil as indicated. Reference LO 5-2805-206-14	
14	CARBURETOR. Inspect for insecure mounting and improper operation.	
15	CONTROLS AND INSTRUMENTS. Inspect for damage and insecure mounting. With the unit operating inspect for improper operation. Normal operating pressure is 140-175 psi.	
	NOTE 1. OPERATIONAL TEST. During operation observe for any unusual noises or vibration.	
	NOTE 2. ADJUSTMENTS. Make all adjustments found necessary during operational test.	

EMC 4310-241-15/12.4

Section III. TROUBLESHOOTING

46. General

This section provides information useful in diagnosing and correcting unsatisfactory operation of failure of the air compressor and its components. Each trouble symptom stated is followed by a list of probable causes of trouble. The possible remedy recommended is described opposite the probable cause. Any operational trouble noted that is beyond the scope of the operator or organizational maintenance must be reported to field maintenance. For engine troubleshooting, refer to TM 5–2805–206–14.

47. Electric Motor Fails To Start or Fails To Run

Probable cause	*Possible remedy*
Leads not properly connected in conduit box.	Connect leads properly (par. 13).
Magnetic starter switch or pressure switch defective.	Replace or repair a defective magnetic starter switch or pressure switch (par. 70).
Magnetic starter not wired properly.	Connect leads properly (par. 13).
Line voltage of incoming power source incorrect.	Determine incoming power source and make correct connections (par. 13).
	Replace motor (par. 65).

48. Electric Motor Reverses

Probable cause	*Possible remedy*
Wiring incorrect	Correct wiring (par 13).

49. Electric Motor Overheats

Probable cause	*Possible remedy*
Line voltage low from power source.	Connect to proper power source(par. 13).
V-belts out of alinement	Aline V-belts (par. 83).
Compressor faulty	Refer to compressor troubles (pars. 52–57).
Ventilation insufficient	Provide proper ventilation.
Insufficient lubrication	Lubricate the air compressor as directed in the current lubrication order.

50. Electric Motor Noisy

Probable cause	*Possible remedy*
Electric motor mounting bolts or brackets loose.	Tighten mountings bolts and brackets.
Electric motor interior dirty.	Replace electric motor (par. 65).
Electric motor bearings worn.	Replace electric motor (par. 65).
V-belts improperly adjusted.	Adjust V-belts (par. 83).

51. Electric Motor Does Not Cut In at 140 PSI, and Cut Out at 175 PSI

Probable cause	*Possible remedy*
Pressure switch not set properly.	Adjust pressure switch (par. 29).
Pressure switch defective	Replace or repair pressure switch (par. 70)
Incoming power source disconnected.	Connect air compressor incoming power source (par 14).

52. Compressor Pumps Too Slowly

Probable cause	*Possible remedy*
Intake air cleaner clogged	Service intake air cleaner (par. 85).
V-belts improperly adjusted.	Adjust V-belts (par. 83).
Oil level low	Check oil level in crankcase and fill in accordance with lubrication chart
Intake nad exhaust valves faulty.	Clean or replace valves (par. 91).
Air leakage in unit	Tighten connection.
Load too great for compressor capacity.	Reduce load requirements of compressor.

53. Compressor Overheats

Probable cause	*Possible remedy*
Flywheel defective	Replace flywheel (par. 86).
V-belts slipping	Adjust V-belts (par. 83).
Intake and exhaust valves faulty.	Clean or replace valves (par. 91).
Intake air cleaner dirty	Service intake air cleaner (par. 85).
Oil level low	Inspect oil level in crankcase and fill in accordance with the current lubrication order.

54. Compressor Fails To Pump to Pressure

Probable cause	*Possible remedy*
Air leakage in unit	Eliminate by tightening connections.
Pressure switch defective	Replace or repair pressure switch (par. 70).
Unloader valve leaks	Adjust, repair, or replace unloader valve (par. 93).
V-belts improperly adjusted.	Adjust V-belts (par. 83).
Intake and exhaust valves defective.	Clean or replace valves (par. 91).
Governor leaking	Repair or replace governor (par. 92).
Engine defective	Replace engine (TM 5–2805–206–14).
Motor defective	Replace the motor (par. 65).

Probable cause	*Possible remedy*
Intake air cleaner clogged	Clean or replace intake air cleaner (par. 85).
Intercooler leaks	Replace defective intercooler (par. 89).

55. Compressor Noisy

Probable cause	*Possible remedy*
Mounting insecure	Tighten mounting bolts.
Drive pulley out of line	Inspect and adjust alinement of drive pulley (par. 83).
Foundation insecure	Strengthen foundation or relocate air compressor on solid base.

56. Compressed Air Contains Oil

Probable cause	*Possible remedy*
Pistons or piston rings worn.	Replace pistons or piston rings (par. 110).
Cylinder bore worn-out-of-round.	Replace cylinder (par. 110).

57. Compressor Fails To Shut Down

Probable cause	*Possible remedy*
Pressure switch not properly adjusted.	Adjust pressure switch (par. 29).
Check valve assembly leaking.	Replace check valve assembly (par. 96).
Load requirement excessive for air compressor capacity.	Reduce air load requirement.

58. V-Belts Wear Excessively

Probable cause	*Possible remedy*
Flywheel loose	Tighten nut on flywheel bolt (par. 86).
V-belts improperly adjusted.	Adjust V-belts (par. 83).
Oil or grease on belts	Clean belts or replace damaged belts (par. 83).

59. Intercooler Safety Valve Blowing at Too Low Pressure

Probable cause	*Possible remedy*
Safety valve defective	Replace valve (par. 95).

60. Safety Relief Valve Blows at Too Low Pressure

Probable cause	*Possible remedy*
Valve not properly seated	Drain air and valve will reseat.
Valve defective	Replace valve (par. 94).

61. Check Valve Assembly Noisy

Probable cause	*Possible remedy*
Check valve assembly worn.	Replace check valve assembly (par. 96).

62. Intercooler Pressure Too Low

Probable cause	*Possible remedy*
Tubing to high-pressure stage leaking.	Tighten fittings.
Safety relief valve leaks	Replace valve (par. 94).
Low-pressure stage intake or exhaust valve faulty.	Clean or replace valves (par. 91).

63. Magnetic Starter Switch Fails To Operate

Probable cause	*Possible remedy*
Magnetic starter switch defective.	Replace or repair starter switch (par. 70).
Thermal relay heater defective.	Install a new thermal relay heater (par. 13).

Section IV. ELECTRIC MOTOR, GASOLINE ENGINE, AND COMPRESSOR ASSEMBLY, REMOVAL AND INSTALLATION

64. General

The electric motor on model OEH–34–60–ENG–1 or the gasoline engine on model LP–512–ENG can be removed as a unit after removal of the V-belt guard, belts, starter, and mounting brackets. The air compressor assembly on either model can be removed as a unit after the V-belt guard, belts, and aftercooler are removed.

65. Electric Motor

a. Removal.

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts (par. 83).

(3) Remove the magnetic starter.

(4) Remove the four nuts, lockwashers, flat washers, and bolts (32, fig. 14) that secure the electric motor (1, fig. 3) to the air receiver tank platform (6) and lift off the motor.

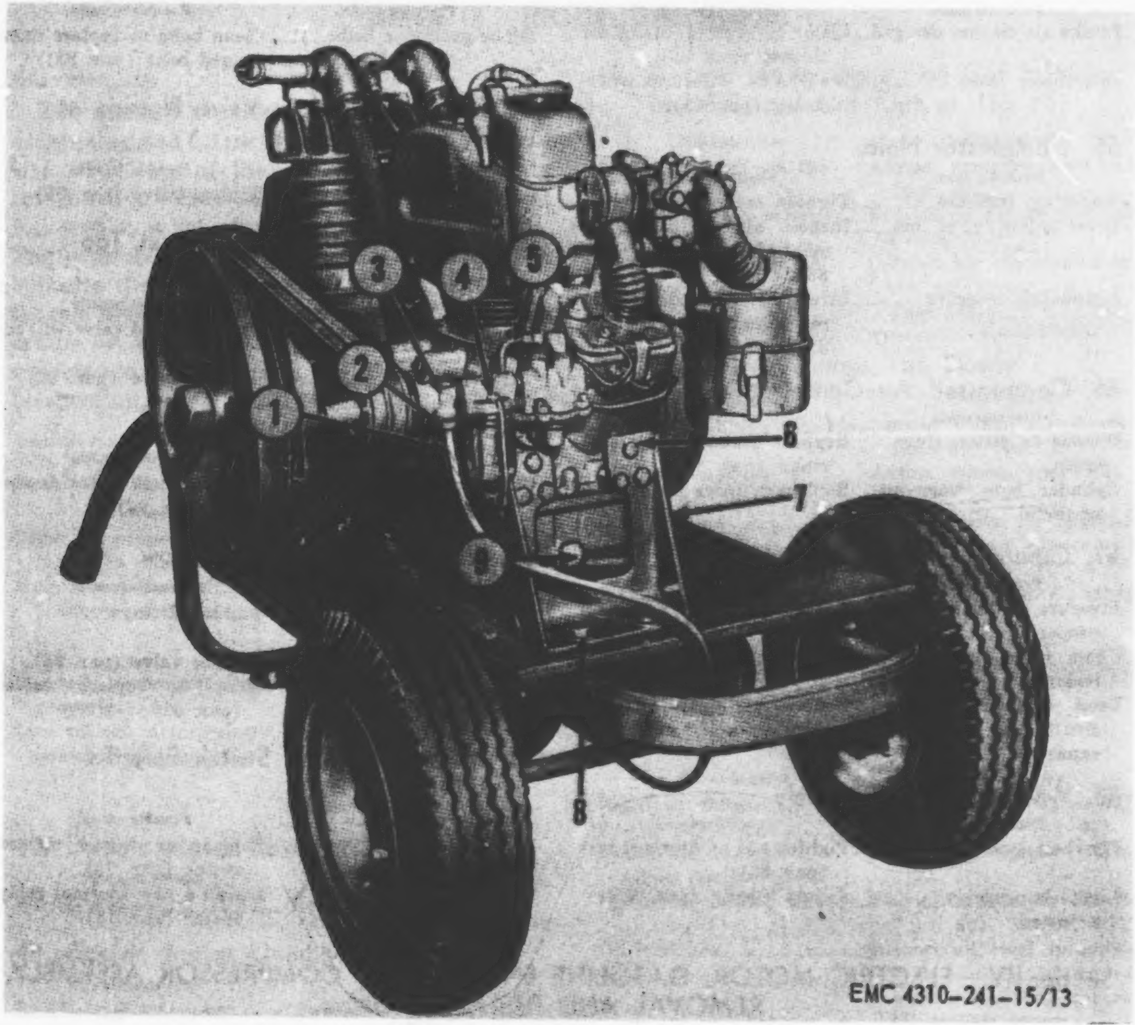
b. Installation.

(1) Position the electric motor (1) on the air receiver tank platform (6) and secure with the bolts (32, fig. 14), lockwashers, flat washers, and nuts. Do not tighten until the V-belts have been adjusted.

(2) Install the magnetic starter.

(3) Install and adjust the V-belts (par. 83).

(4) Install the V-belt guard (par. 83).



1	Fuel line
2	Nut
3	Elbow
4	Fuel strainer
5	Fuel line
6	Screw, cap
7	Bracket, engine mounting
8	Screw, cap
9	Engine oil drain cap

Figure 13. Gasoline engine, removal points.

66. Gasoline Engine

a. Removal.

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts (par. 83).

(3) Remove the fuel line (1, fig. 13).

(4) Remove the four nuts, lockwashers, flat washers, and capscrews (8, fig. 13) that secure the brackets (7) to the hand truck assembly and lift off the engine.

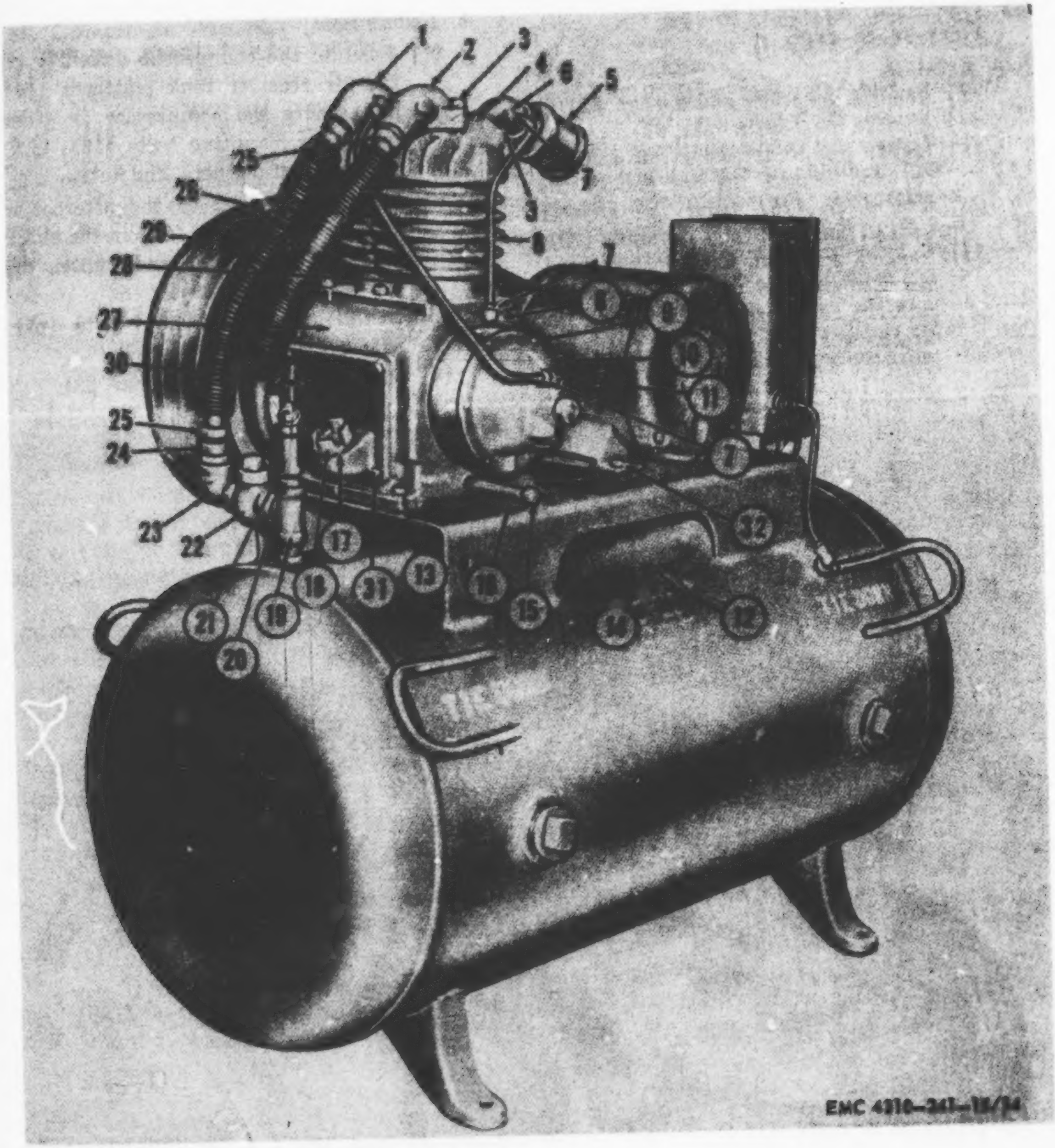
b. Installation.

(1) Position the gasoline engine on the hand truck assembly and secure the engine in place with four capscrews (8), lockwashers, flat washers and nuts. Do not tighten until the V-belts have been adjusted.

(2) Install and adjust the V-belts (par. 83).

(3) Install the fuel line (1).

(4) Install the V-belt guard (par. 82).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1	High-pressure exh. manifold
2	Low-pressure exh. manifold
3	Nut, plain, hex, ⅜-24 (8 rqr)
4	Low-pressure intake manifold
5	Intake air cleaner
6	Adapter (2 rqr)
7	Nut, coupling ¼ in. (4 rqr)
8	Crankcase breather tube
9	Screw, mach. 10-32 x ⅝ in. (6 rqr)
10	Governor housing cover
11	Elbow (3 rqr)
12	Air receiver tank
13	Bolt, mach. ⅜-16 x 1¼ in. (4 rqr)
14	Air receiver tank platform
15	Drain cap, ¼ in.
16	Oil drain nipple, ¼ x 4 in.
17	Gasket
18	Oil filler cap
19	Pipe tee, ½ in.
20	Bushing, pipe ½ x ¼ in.
21	Safety valve
22	Check valve assembly
23	Elbow
24	Adapter
25	Nut, compression (4 rqr)
26	Aftercooler
27	Air compressor
28	Release valve unloader tube
29	Intercooler
30	Side plate
31	Screw, cap
32	Bolt

Figure 14. Compressor assembly, removal points (Model OEH-34-60-ENG-1).

67. Compressor Assembly (Model OEH-34-60-ENG-1)

a. Removal.

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts (par. 83).

(3) Loosen one compression nut (25, fig. 14) and remove the one end of the aftercooler (26) from the adapter (24) in the check valve assembly (22).

(4) Remove the four nuts, lockwashers, flat washers, and bolts (13) that secure the compressor assembly to the air receiver tank platform (14). Remove the compressor assembly.

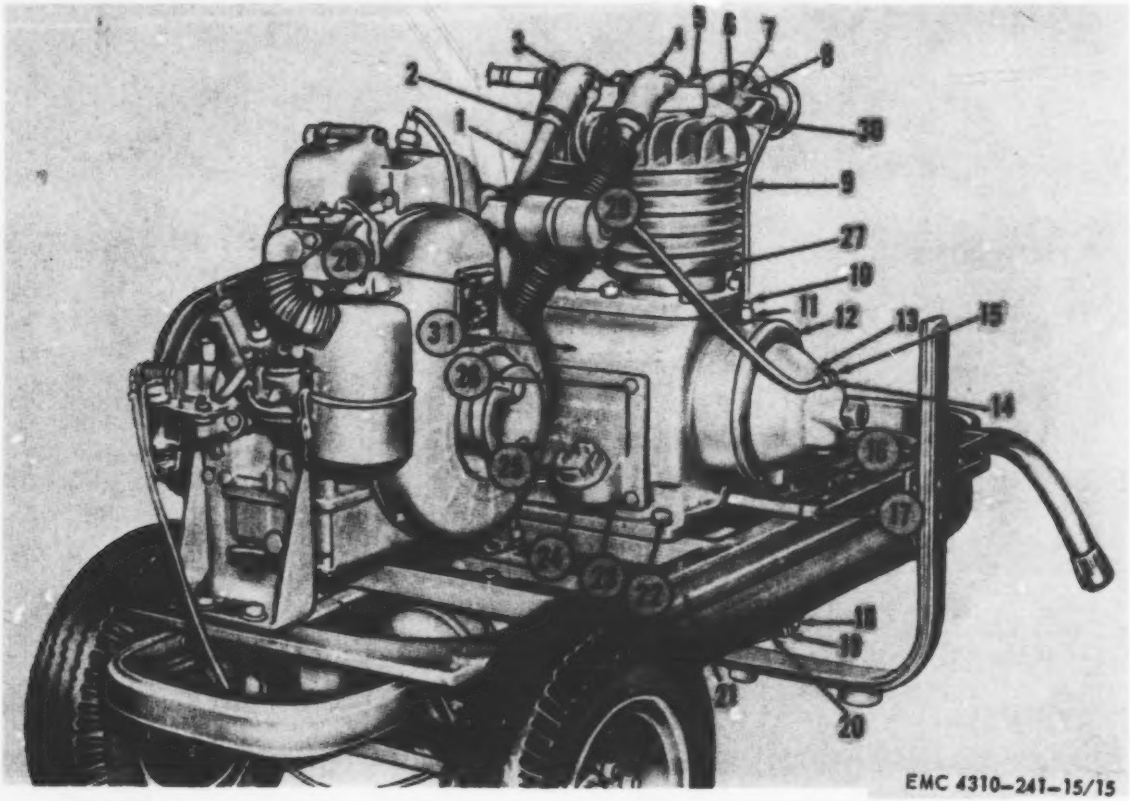
b. Installation.

(1) Position the compressor assembly on the air receiver tank platform (14) and secure the compressor in place with four mounting bolts (13), lockwashers, flat washers, and nuts.

(2) Position one end of the aftercooler (26) in the adapter (24) in the check valve assembly (22) and tighten the compression nut (25).

(3) Install and adjust the V-belts (par. 83).

(4) Install the V-belt guard (par. 82).



EMC 4310-241-15/15

1	Aftercooler	11	Adapter	21	Hand truck assembly
2	Nut, compression	12	Screw, machine	22	Screw, cap
3	High-pressure exhaust manifold	13	Governor housing cover	23	Side plate
4	Low-pressure exhaust manifold	14	Nut, coupling	24	Gasket
5	Nut, plain	15	Elbow	25	Oil filler cap
6	Nut, plain	16	Oil drain nipple	26	Screw, cap
7	Adapter	17	Drain cap	27	Release valve unloader tube
8	Nut, coupling	18	Elbow	28	Intercooler
9	Crankcase breather tube	19	Nut	29	Nut, compression
10	Nut, coupling	20	Fuel line	30	Low-pressure intake manifold
		31	Crankcase		

Figure 15. Compressor assembly, removal points, (Model LP-512-ENG).

68. Compressor Assembly (Model LP–512–ENG).

a. Removal.

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts (par. 83).

(3) Loosen one compression nut (9, fig. 18) and remove one end of the aftercooler (2) from the air receiver tank.

(4) Remove the four nuts, lockwashers, flat washers, and capscrews (22), fig. 15) that secure the compressor to the truck assembly (21). Remove the compressor to the truck assembly (21). Remove the compressor assembly.

b. Installation.

(1) Position the compressor assembly on the truck assembly (21) and secure the compressor in place with the four mounting capscrews (22), lockwashers, flat washers, and nuts.

(2) Position one end of the aftercooler (2, fig. 18) in the air receiver tank and tighten the compression nut (9).

(3) Install and adjust the V-belts (par. 83).

(4) Install the V-belt guard (par. 82).

Section V. ELECTRIC MOTOR ACCESSORIES USED ON MODEL OEH–34–60–ENG–1

69. General

The electric motor accessories consist of the magnetic starter with pressure switch, and the drive pulley. The pressure switch is actuated by air pressure exerted against the diaphragm from the air receiver tank. It energizes the starter switch, causing the contacts to close. The drive pulley is mounted on the shaft of the electric motor.

70. Magnetic Starter With Pressure Switch and Cover

a. Removal.

(1) Turn off the outside power source.

(2) Release all air from the compressor by opening the draincocks.

(3) Remove the magnetic starter cover (par. 14).

(4) Remove the pressure switch tube (par. 71).

(5) Loosen the tedminal screws and remove outside power wires from the magnetic starter box.

(6) Remove the two machine screws, lockwashers, flat washers, and nuts that secure the magnetic starter box to the electric motor. Remove the magnetic starter and pressure switch.

b. Disassembly.

(1) Remove the leads from T1 terminal (12, fig. 9,), T2 terminal (15, fig. 9) and T3 terminal (7, fig. 9).

(2) Remove the heaters (10 and 16, fig. 9).

(3) Remove the overload relay (14).

(4) Remove the screws that secure the mounting plate (2) to the starter box (6) and remove the starter assembly.

(5) Remove the stationary contacts (8).

(6) To remove the movable contacts (9), lift the contact upward and pull the contact free of the block.

(7) To remove the coil retainer spring (11), lift upward and pull it free.

c. Cleaning and Inspection.

(1) Clean the magnetic starter and pressure switch by blowing all dust and dirt from the starter and switch with compressed air.

(2) Clean the wires by wiping with a dry cloth.

(3) Clean all other parts with an approved cleaning solvent and dry thoroughly.

(4) Replace a defective magnetic starter and pressure switch.

d. Reassembly.

(1) Insert the coil retainer spring (11) in position below the coil and depress until it locks in place.

(2) Insert the movable contacts (9) into the contactor block and depress until they lock in place.

(3) Secure the stationary contacts (8) to the contactor block.

(4) Position the magnetic starter assembly in the magnetic starter box (6) and secure it to the mounting plate (2) in the box.

(5) Install the overload relay (14).

(6) Install the heaters (10 and 16).

(7) Connect the leads to terminals T1, T2, and T3.

e. Installation.

(1) Install the magnetic starter box on the electric motor and secure with two machine screws, lockwashers, flat washers, and nuts.

(2) Install the outside power source wires in the magnetic starter box.

(3) Install the pressure switch tube (par. 71).

(4) Install the magnetic starter cover (par. 14).

71. Pressure Switch Tube Assembly

a. Removal.

(1) Remove the pressure switch tube (4, fig. 4) from the magnetic starter cover and remove the other end of the tube from the elbow on the air receiver tank.

(2) Remove the elbow from the bushing and remove the bushing from the air receiver tank.

(3) Tag and disconnect the leads from the pressure switch and remove the switch.

b. Disassembly.

(1) Remove the screws that secure the diaphragm cover to the pressure switch housing and remove the cover, diaphragm, spring, and push rod.

(2) Remove the cover from the contact set and lift out the movable contacts.

(3) Remove the screws that secure the fixed contacts to the contactor block and remove the contacts.

c. Cleaning and Inspection.

(1) Wipe the pressure switch tube with a cloth moistened with an approved cleaning solvent and dry thoroughly. Blow out the tube with compressed air

(2) Inspect the tube assembly for cracks, bends, or damaged threads. Replace a defective tube assembly.

(3) Inspect the contact set for burning and pitting.

(4) Inspect all threaded parts for damaged or defective threads.

(5) Repair or replace a defective pressure switch.

d. Reassembly.

(1) Secure the fixed contacts to the contactor block with the machine screws.

(2) Position the movable contacts in the contactor block and secure the contact set cover to the contactor block.

(3) Position the push rod in the rear of the pressure switch. Place the spring on the diaphragm cover with diaphragm over the spring. Secure the diaphragm, spring, and cover to the pressure switch housing.

e. Installation.

(1) Install the pressure switch and connect the leads.

(2) Install the bushing in the air receiver tank and the elbow in the housing.

(3) Install the pressure switch tube (4, fig. 4) in the magnetic starter cover and tighten the fitting. Install the other end of the tube assembly on the elbow on the air receiver tank and tighten the nut.

72. Drive Pulley (Used on Model OEH-34-60-ENG-1)

a. Removal.

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts (par. 83).

(3) Remove the setscrew that locks the drive pulley (9, fig. 16) to the motor armature shaft (10). Use a suitable puller to remove the pulley and lift out the machine key (11).

b. Cleaning and Inspection.

(1) Clean the pulley and key with an approved solvent and dry thoroughly.

(2) Inspect the pulley for cracks and breaks, the key for chips and burs, and the threaded surfaces for wear and damage. See that the key fits snugly in the keyway.

(3) Replace all defective parts.

c. Installation.

(1) Position the machine key (11) in the motor armature shaft (10).

(2) Fit the key slot in the drive pulley (9) over the machine key, and press the pulley in position on the shaft. Lock the pulley in position by tightening the setscrew.

(3) Install and adjust the V-belt (par. 83).

(4) Install the V-belt guard (par. 82).

Section VI. GASOLINE ENGINE ACCESSORIES ON MODEL LP-512-ENG

73. General

The muffler is part of the gasoline engine exhaust system and is mounted on the engine head. The portion of the gasoline engine fuel system covered in this manual consists of the fuel tank, fuel strainer, and fuel line. The gasoline engine oil pan is drained through the oil drain line. The drive pulley is located on the power takeoff shaft of the gasoline engine. Mounting brackets secure the gasoline engine to the hand truck assembly.

74. Muffler

a. Removal. Remove the muffler (12, fig. 1), and adapter (11) from the engine (1).

b. Cleaningand Inspection.

(1) Clean the muffler with an approved cleaning solvent and dry thoroughly.

(2) Inspect for holes and damaged hardware. Replace a defective muffler and adapter.

c. Installation. Install the adapter (11) and secure the muffler (12) to the engine.

75. Fuel Line

a. Removal.

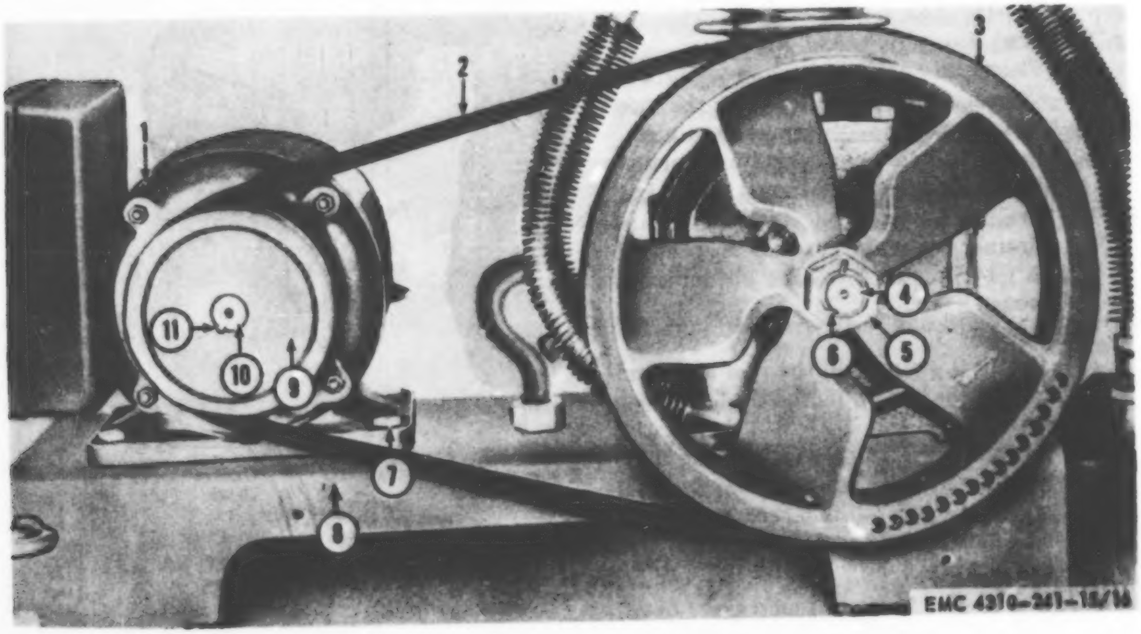
(1) Drain the fuel tank (par. 30).

(2) Loosen the nut (2, fig. 13) that secures the fuel line (1) to the elbow (3) and remove the fuel line at the fuel strainer cover (4). Remove the elbow from the cover.

(3) Remove the nut (19, fig. 15) that secures the fuel line (20) to the elbow (18) and remove the other end of the fuel line and the elbow from the fuel tank.

b. Cleaning and Inspection.

(1) Clean the fuel line by blowing compressed air through the line. If the line contains a gummy deposit, soak the line in an approved cleaning solvent and dry thoroughly.



1	Electric motor
2	V-belt (2 rqr)
3	Crankshaft flywheel
4	Compressor crankshaft
5	Nut, plain, hex, 1⅛-12
6	Key, machine, ¼ in. x 1 7/16
7	Bolt, machine, ⅜-16 x 1½ in. (4 rqr)
8	Air receiver tank platform
9	Drive pulley
10	Armature shaft
11	Machine key

Figure 16. V-belts, crankshaft flywheel, and drive pulley, removal points.

(2) Inspect the fuel line for cracks, split, stretched, or frayed ends. Replace the fuel line if it is defective.

c. Installation.

(1) Install the elbow (18) in the fuel tank and one end of the fuel line (20) in the elbow, tighten the nut (19).

(2) Install the elbow (3, fig. 13) in the fuel strainer cover (4) and install the other end of the fuel line in the elbow. Tighten the nut (2).

(3) Fill the fuel tank (par. 12).

76. Fuel Strainer

a. Removal.

(1) Drain the fuel tank (par. 30).

(2) Disconnect the fuel line at the fuel strainer cover (par. 75).

(3) Remove the elbow and the fuel strainer assembly from the engine.

b. Diassembly.

(1) Loosen the nut on the bail assembly (5, A, fig. 17) and remove the bail assembly.

(2) Remove the bowl (4), gasket (3), and strainer (2) from the cover (1).

c. Cleaning, Inspection, and Repair.

(1) Clean all parts with an approved cleaning solvent. Blow out the fuel strainer cover with compressed air.

(2) Inspect all threaded parts for worn or damaged threads. Inspect the fuel strainer for damage. Inspect the fuel strainer cover for cracks. Inspect the bail for bends. Replace all defective parts.

d. Reassembly.

(1) Install the nipple in the fuel tank and install the elbow in the fuel strainer cover.

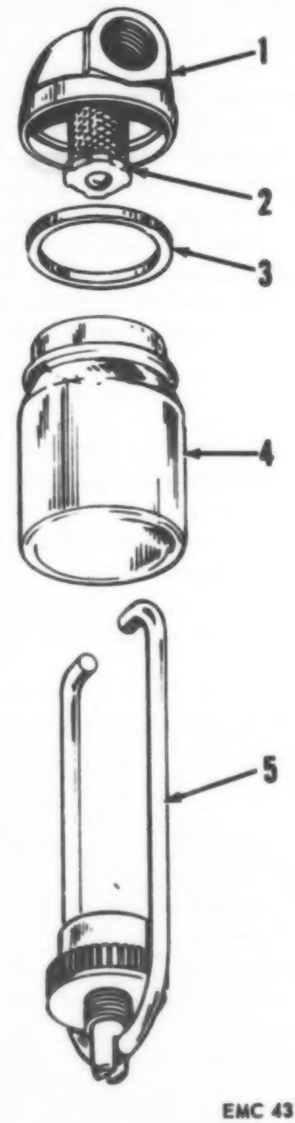
(2) Install the strainer (2, A, fig. 17), gasket (3), and bowl (4) on the fuel strainer cover (1) and secure with the bail assembly (5).

e. Installation.

(1) Install the fuel strainer cover, bowl, and bail assembly as an assembly and the elbow on the nipple in the engine.

(2) Install the fuel line at the fuel strainer cover (par. 75).

(3) Fill the fuel tank (par. 12).



EMC 4310-241-15/17

1 Cover, fuel strainer
2 Strainer
3 Gasket
4 Bowl
5 Bail assembly

A—Fuel strainer, exploded view

Figure 17. Fuel components.

77. Fuel Tank

a. Removal.

(1) Remove the fuel line (par. 75).

(2) Remove the two U-bolts (3, B, fig. 17) and nuts that secure the fuel tank (8) to the hand truck. Remove the tank.

b. Cleaning and Inspection. Clean all parts with an approved cleaning solvent and dry thoroughly. Inspect all parts for dents or breaks. Inspect the nuts and bolts for stripped threads and worn heads. Replace any defective part.

c. Installation.

(1) Position the fuel tank under the hand truck and secure with two U-bolts and nuts.

(2) Install the fuel line (par. 75).

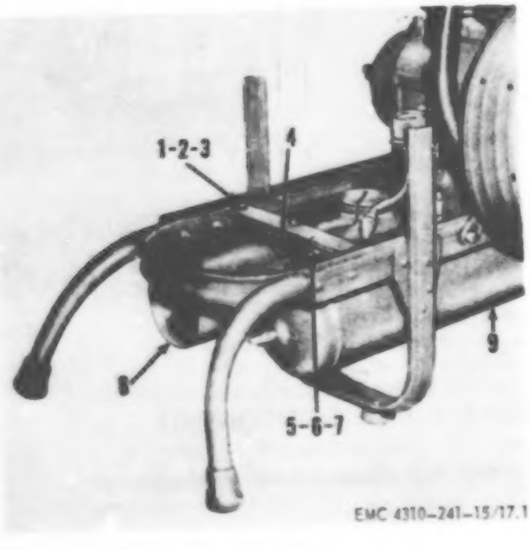
78. Drive Pulley (Used on Model LP–512–ENG)

a. Removal.

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts (par. 83).

(2) Remove the set screw that locks the drive pulley (5, A, fig. 18) to the engine crankshaft. Use a suitable puller to remove the pulley and lift out the machine key (4).



EMC 4310–241–15/17.1

1 Washer flat
2 Nut
3 U-bolt
4 Bracket
5 Screw, cap
6 Nut
7 Washer, flat
8 Tank, fuel
9 Air receiver tank

B—Fuel and air receiver tank, removed points

Figure 17—Continued.

b. Cleaning and Inspection.

(1) Clean the pulley and key with an approved cleaning solvent and dry thoroughly.

(2) Inspect the pulley for cracks and breaks, the key for chips and burs, and the threaded surfaces for wear and damage. See that the key fits snugly in the keyway.

(3) Replace all defective parts.

c. Installation.

(1) Position the machine key (4) in the crankshaft.

(2) Fit the key slot in the drive pulley (5) over the machine key, and press the pulley in position on the shaft. Lock the pulley in position by tightening the set screw.

(3) Install and adjust the V-belts (par. 83).

(4) Install the V-belt guard (par. 82).

79. Engine Brackets

a. Removal.

(1) Remove the gasoline engine (par. 66).

(2) Remove the twelve screws (6, fig. 13) that secure the front and rear mounting brackets (7) to the engine. Remove the brackets from the engine.

b. Cleaning, Inspection, and Repair. Clean all parts with an approved cleaning solvent, and dry thoroughly. Inspect all parts for dents and breaks. Inspect the bolts for stripped threads and worn heads. Replace any defective parts.

c. Installation.

(1) Install the front and rear engine mounting brackets (7) and secure the brackets to the engine with twelve screws (6) and lockwashers.

(2) Install the gasoline engine (par. 66).

80. Engine Oil Drain Line

a. Removal.

(1) Remove the gasoline engine (par. 66).

(2) Remove the cap (9, fig. 13) and drain the oil from the engine.

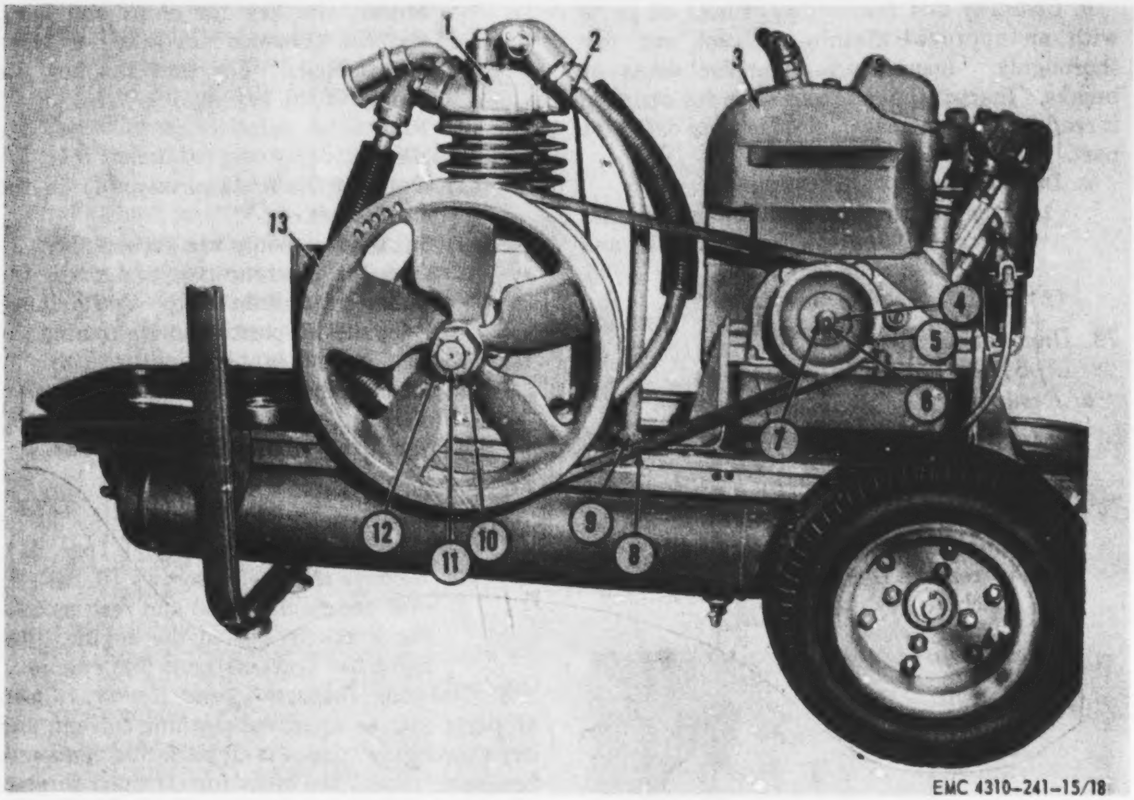
b. Cleaning and Inspection. Clean all parts with an approved cleaning solvent, and dry thoroughly. Inspect all parts for cracks or breaks. Replace any defective parts.

c. Installation.

(1) Install the cap (9) in the bottom of the engine oil pan.

(2) Install the gasoline engine (par. 66).

(3) Fill the crankcase with the proper grade of oil in accordance with the current lubrication chart.



1	Compressor	7	Nut, jam
2	Aftercooler	8	V-belt
3	Engine	9	Nut compression
4	Key, machine	10	Nut, plain
5	Drive pulley	11	Compressor crankshaft
6	Sleeve, taper	12	Key, machine

13 Crankshaft flywheel

A—V-belts, crankshaft flywheel, and drive pulley, removal points (model LP-512-ENG).

Figure 18. V-*Belts.*

Section VII. COMPRESSOR ASSEMBLY AND COMPONENTS

81. General

The compressor assembly is a two-cylinder, two-stage, air-cooled unit. It consists of an air intake cleaner, intercooler and aftercooler tubes, and high-and low-pressure cylinders. Air drawn through the intake cleaner into the low-pressure cylinder is forced through the intercooler tube into the high-pressure cylinder. The compressed air then passes through the aftercooler tube and the check valve assembly into the air receiver tank. The check valve assembly prevents the air in the tank from flowing back into the aftercooler tube.

82. V-Belt Guard and Brackets

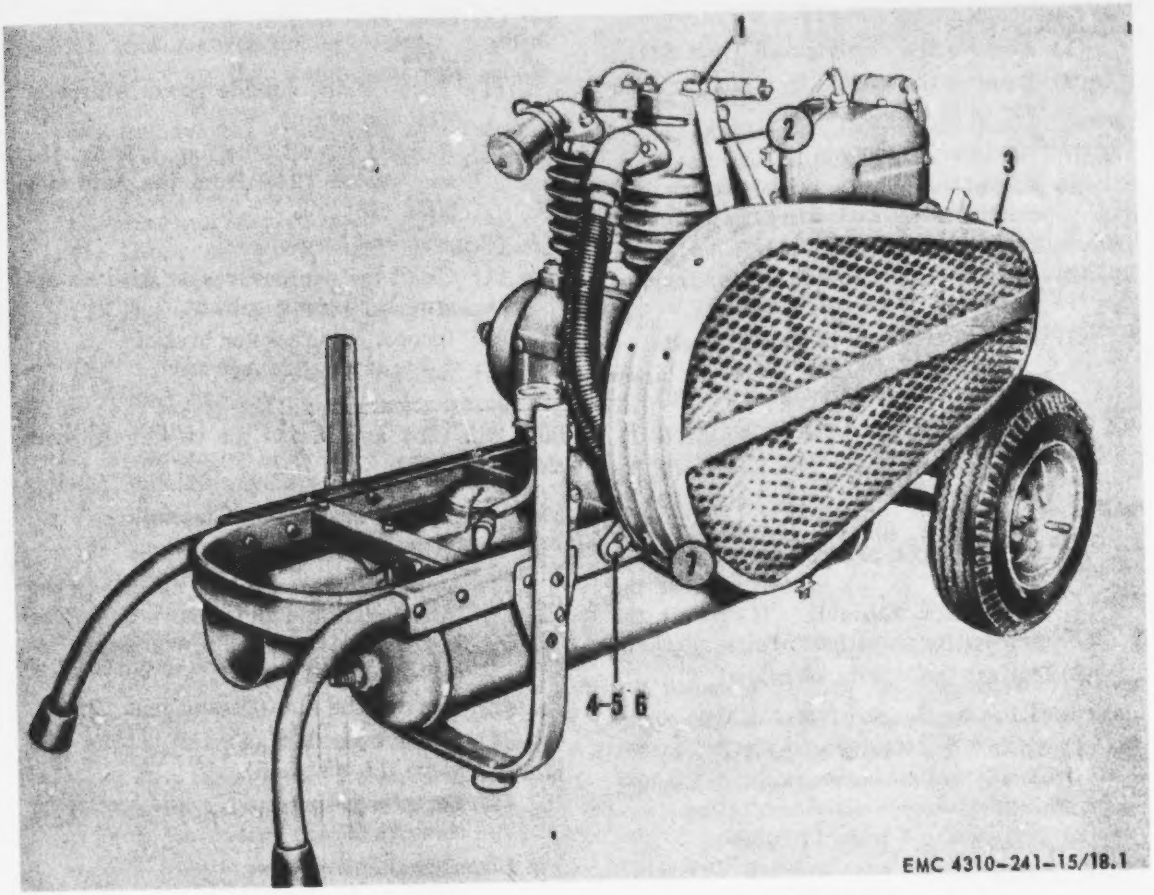
a. Removal.

(1) Turn off the outside power source or stop the engine as applicable.

(2) Release all air from the compressor by opening the draincock (3, fig. 2).

(3) Remove the nut (1, B, fig. 18) that secures the upper belt guard bracket (2) to the manifold stud.

(4) Remove the capscrew (4), flat washers (6), lockwashers, and nuts that secure the lower belt guard brackets (7) to the guard and lift off



EMC 4310-241-15/18.1

1 Nut
2 Bracket, guard
3 Belt guard
7 Bracket, guard
4 Screw, cap
5 Nut
6 Washer, flat

B—V-belt guard, removal points.

Figure 18—Continued.

the V-belt guard (3) and upper bracket as an assembly.

Warning: **Never operate the air compressor with the drive belt guard off.**

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent.

(2) Inspect the V-belt guard and mounting brackets for dents, cracks, or other damages. Straighten minor dents and bends in the guard and brackets.

(3) Inspect all attaching hardware for damaged threads. Replace damaged attaching hardware and replace a damaged guard, bracket, or other defective part.

c. Installation. Position the assembled belt guard and secure the lower bracket to the guard with capscrew (4), flat washers (6), and nut. Install the upper bracket to the manifold stud with the nut (1).

83. V-Belts

a. Removal (Model OEH–34–60–ENG–1).

(1) Remove the V-belt guard (par. 82).

(2) Loosen the four mounting bolts (7, fig. 16). Move the electric motor (1) toward the compressor assembly far enough to permit the two V-belts (2) to be removed from the crankshaft flywheel (3) and the motor drive pulley (9).

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b. Removal (Model LP–512–ENG).

(1) Remove the V-belt guard (par. 82).

(2) Remove the V-belts in a similar manner as in *a* above.

c. Cleaning and Inspection.

(1) Clean the V-belts, with a clean, dry cloth, taking care to remove all dirt, grease, and oil.

(2) Inspect the V-belts for cuts, fraying, and wear.

(3) Replace worn or damaged V-belts.

Note. Always replace the V-belts in sets of two.

d. Installation (Model OEH–34–60–ENG–1).

(1) Position one of the two V-belts (2, fig. 16) on the motor drive pulley (9) in the groove nearest the motor (1). Work the belt over the crankshaft flywheel (3) to the groove nearest the compressor assembly. Repeat the process for the other V-belts.

(2) Adjust the V-belts (*f* below).

e. Installation (Model LP–512–ENG).

(1) Install the V-belts as in *d* above.

Note. Adjust the V-belts before installing the fuel line.

(2) Adjust the V-belts (*f* below).

f. Adjustment.

(1) Move the motor (1, fig. 16) away from the compressor assembly until there is tension on the V-belts.

(2) Depress one of the V-belts midway between the pulley and flywheel; if its top lines up with the bottom of the belt next to it, the tension is correct.

Caution: **Do not adjust the V-belts too tightly as this will overload the motor bearings.**

(3) Tighten the motor mounting bolts (7) when tension has been adjusted correctly.

(4) Examine the alinement of the pulley (9) and flywheel (3) visually or with a straight edge. If they are not alined, loosen the setscrew in the pulley, move the pulley back and forth as required, and tighten the setscrew.

(5) Install the V-belt guard (par. 82).

84. Oil Filler and Gasket

a. Removal.

(1) Turn off the outside power source or stop the engine.

(2) Remove the oil filler cap (25, fig. 15) and gasket (24) from the rear side plate (23).

b. Cleaning and Inspection.

(1) Clean the cap and gasket with an approved cleaning solvent.

(2) Inspect for cracks or breaks.

(3) Replace if defective.

c. Installation. Install the gasket (24) on oil filler cap (25) and install the cap in the rear side plate (23).

85. Compressor Intake Air Cleaner

a. Removal.

(1) Loosen the setscrew (2, fig. 12) in the intake manifold and remove the intake air cleaner from the low-pressure intake manifold (1).

(2) Remove the nut (3) and bolt (9).

(3) Remove the top (4) and bottom (8) from the plate (5).

(4) Remove the screen (7) and scottfoam element (6).

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect the top, bottom, and plate for cracks, breaks, dents, and holes.

(3) Inspect all attaching hardware for damaged threads.

(4) Replace any defective or unserviceable parts.

c. Installation.

(1) Install the screen (7) and scottfoam element (6) in the plate (5).

(2) Install the top assembly (4) and bottom (8).

(3) Install the bolt (9) and fasten nut (3).

(4) Install the air cleaner in manifold (1) and tighten setscrew (2).

86. Crankshaft Flywheel

a. Removal.

(1) Remove the V-belts (par. 83).

(2) Remove the hex nut (10, A, fig. 18) that secures the crankshaft flywheel (13) to the compressor crankshaft (11).

(3) Remove the crankshaft flywheel and the machine key (12) from the crankshaft.

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent.

(2) Inspect the flywheel for chips and cracks.

(3) Inspect the key for chips, burs, and snug fit.

(4) Inspect the threads on the nut for damage.

(5) Replace any defective parts.

c. Installation.

(1) Insert the key (12) and install the flywheel (13) on the crankshaft (11).

(2) Install the hex nut (10) to secure the crankshaft flywheel to the crankshaft.

(3) Install and adjust the V-belt (par. 83).

87. Tube Assemblies

a. Removal. Turn off the outside power source or stop the engine. Release all air from the compressor by opening the draincock.

(1) *Release valve unloader tube.*

(*a*) Loosen the coupling nuts (7, fig. 14) of the release valve unloader tube (28). Remove the tube from the elbow (11) in the exhaust manifold (1) and the elbow (11) in the governor housing cover (10).

(*b*) Remove the two elbows from the manifold and governor housing cover.

(2) *Crankcase breather tube.*

(*a*) Loosen the coupling nuts (7) of the crankcase breather tube (8). Remove the tube from the adapter (6) in the governor housing.

(*b*) Remove the two adapters from the manifold and governor housing.

b. Cleaning and Inspection.

(1) Wipe the tube assemblies with a cloth moistened with an approved cleaning solvent, and dry thoroughly.

(2) Blow out the tubing with compressed air.

(3) Inspect the tubing for cracks, breaks, or dents and replace all unserviceable parts.

c. Installation.

(1) *Release valve unloader tube.*

(*a*) Install the two elbows (11) in the exhaust manifold (1) and in the governor housing cover (10).

(*b*) Position the release valve unloader tube (28) and connect the coupling nuts (7) to the two elbows (11) in the manifold (1) and governor housing cover (10).

(2) *Crankcase breather tube.*

(*a*) Install the two adapters (6) in the intake manifold (4) and the governor housing (10).

(*b*) Position the crankcase breather tube (8) and connect the coupling nuts (7) to the two adapters in the manifold and the governor housing.

88. Intake and Exhaust Manifolds

a. Removal. Turn off the outside power source or stop the engine. Release all air from the compressor by opening the draincock.

(1) *Low-pressure intake manifold*

(*a*) Remove the intake air cleaner (par. 85).

(*b*) Remove the crankcase breather tube (par. 87).

(*c*) Remove the two hex nuts (3, fig. 14) that secure the intake manifold (4) to the studs on the cylinder block, and remove the manifold.

(*d*) Remove the studs.

(2) *Low pressure exhaust manifold.*

(*a*) Loosen the compression nut (25) and disconnect the intercooler (29) from the low-pressure exhaust and manifold (2).

(*b*) Remove the hex nuts (3) that secure the manifold to the studs and remove the manifolds.

(*c*) Remove the studs.

(3) *High-pressure intake manifold.*

(*a*) Remove the low-pressure exhaust manifold before removing the high-pressure intake manifolds ((2) above).

(*b*) Remove the high-pressure intake manifold in the same manner as (2) above.

(*c*) Remove the intercooler safety valve (3, fig. 3) from high-pressure intake manifold.

(4) *High-pressure exhaust manifold.* (Used on Model LP–512–ENG).

(*a*) Loosen the compression nut (2, fig. 15) and disconnect the aftercooler (1) from the high-pressure exhaust manifold (3).

(*b*) Remove the two hex nuts (5) that secure the high-pressure exhaust manifold to the studs on the cylinder block.

(*c*) Remove the manifold.

(*d*) Remove the high-pressure exhaust manifold on Model OEH–34–60–ENG–1 in a similar manner.

b. Cleaning and Inspection.

(1) Clean all parts in an approved cleaning solvent and dry thoroughly.

(2) Inspect the manifolds for cracks, breaks, or dents. Inspect all threaded fittings for damaged threads.

(3) Replace all unserviceable parts.

c. Installation.

(1) *High-pressure exhaust manifold.* (Used on Model LP–512–ENG).

(*a*) Install the studs in the cylinder block and install the manifold on the studs and secure with two hex nuts (5).

(*b*) Install the aftercooler (1) in the high-pressure exhaust manifold (3) and tighten the compression nut (2).

(*c*) Install the high-pressure exhaust manifold on Model OEH–34–60–ENG–1 in a similar manner.

(2) *High-pressure intake manifold.*

(*a*) Install the intercooler safety valve (3, fig. 3) in the high-pressure intake manifold.

(*b*) Install the studs in the cylinder block and install the manifold on the studs and secure with two hex nuts (3, fig. 14).

(*c*) Install the intercooler (29) in the intake manifold and tighten the compression nut (25).

(3) *Low-pressure exhaust manifold.*

(*a*) Install the high-pressure intake manifold before installing the low-pressure exhaust manifold ((2) above).

(*b*) Install the low-pressure exhaust manifold in the same manner as (2) above.

(4) *Low-pressure intake manifold.*

(*a*) Install the studs on the cylinder block and install the low-pressure intake manifold (4) on the studs and secure with two hex nuts (3).

(*b*) Install the crankcase breather tube (par. 87).

(*c*) Install the intake air cleaner (par. 85).

89. Intercooler

a. Removal.

(1) Remove crankshaft flywheel (par. 86).

(2) Loosen two compression nuts (25, fig. 14) from the low-pressure exhaust manifold (2) and the high-pressure intake manifold and remove the intercooler (29).

b. Cleaning and Inspection.

(1) Clean the intercooler with an approved cleaning solvent. Blow out all grease and dirt collected inside the tube. Be certain there is no dirt or grease on the fins which will hamper their cooling function.

(2) Inspect the intercooler for dents, holes, cracks, or damaged threads. Straighten fins if they are bent. Replace a defective intercooler.

c. Installation.

(1) Position the intercooler (29) with ends in the low-pressure exhaust manifold (2) and the high-pressure intake manifold and tighten the two compression nuts (25).

(2) Install the crankshaft flywheel (par. 86).

90. Aftercooler

a. Removal.

(1) Remove the high-pressure exhaust manifold (par. 88).

(2) Loosen one compression nut (25, fig. 14) from the adapter (24) and remove the lower end of the aftercooler (26).

(3) Remove the adapter from the check valve elbow (23).

b. Cleaning and Inspection.

(1) Wash the aftercooler with an approved cleaning solvent . Blow out all accumulated dirt with compressed air.

(2) Inspect the aftercooler for dents, holes, cracks, or damaged, threads. Straighten fins if they are bent. Replace a defective aftercooler.

c. Installation.

(1) Install the adapter (24) in the check valve elbow (23).

(2) Install the lower end of the aftercooler (26) in the adapter and tighten the compression nut (25).

(3) Install the high-pressure exhaust manifold (par. 88).

91. Intake and Exhaust Valves

a. Removal and Disassembly.

(1) Remove the intake and exhaust manifolds (par. 88).

(2) Remove the low-pressure intake assembly (9, fig. 19) and the copper gasket (2) under the valve assembly from the cylinder block (3).

(3) Remove the screw (3, fig. 20) and lockwasher (4) that secure the low-pressure intake valve seat (5) to the low-pressure intake valve cage (8). Remove the seat (5), low-pressure intake disk (6), and the low-pressure intake spring (7) from the low-pressure intake valve cage (8).

(4) Remove and diassemble the high-pressure intake valve assembly in a similar manner.

(5) Remove the copper gasket (2, fig. 19) and the low-pressure exhaust valve assembly (1) and gasket (7) under the valve assembly from the cylinder block (3).

(6) Remove the screw (3, fig. 20) and lockwasher (4) that secure the low-pressure exhaust valve cage (11) to the low-pressure exhaust valve seat (9). Remove the cage (11), low-pressure exhaust valve spring (10) and low-pressure exhaust valve disk (6) from the low-pressure exhaust valve seat (9).

(7) Remove and disassemble the high-pressure exhaust valve assembly in the same manner.

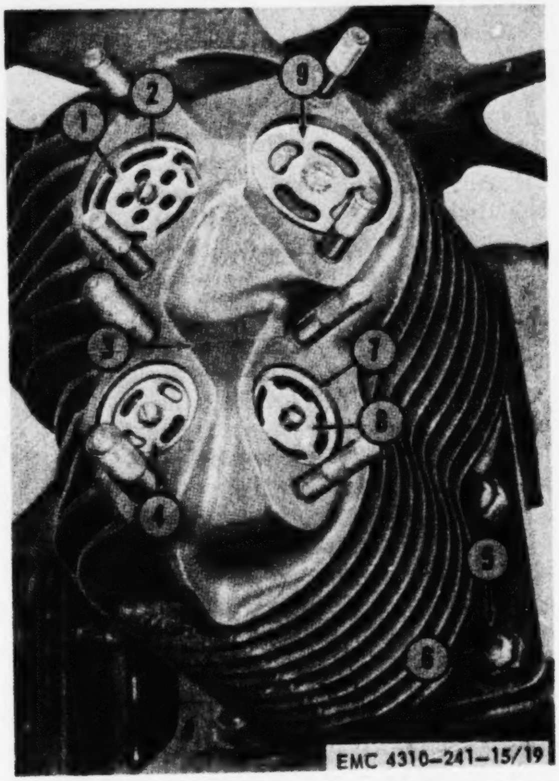
b. Cleaning, Inspection, and Repair.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all valve seats and housings for cracks, breaks, rough or scored valve seats, and mating surfaces.

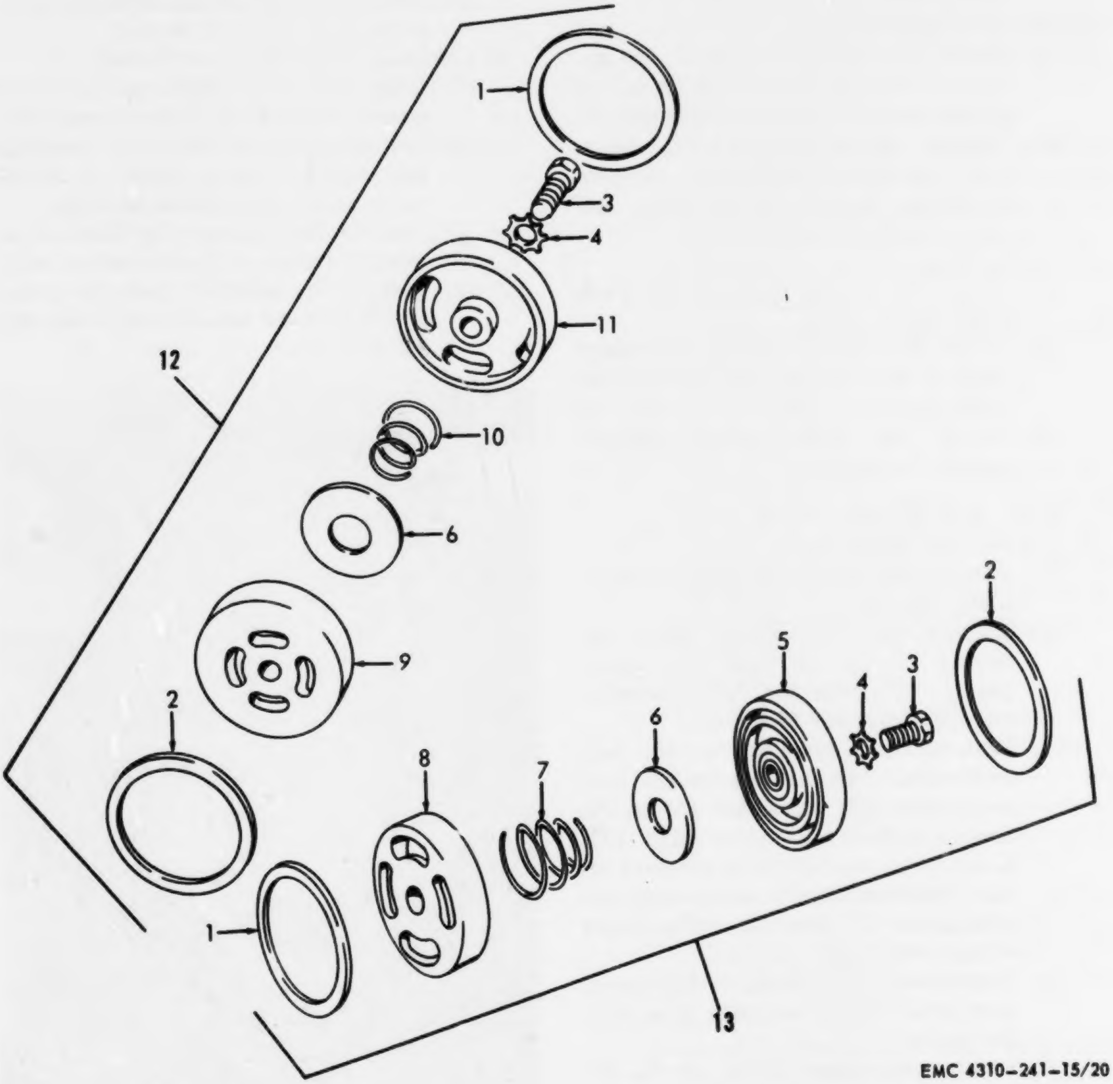
(3) Inspect the springs for distoration, weak tension, or broken helical coils.

(4) Inspect the cylinder block for defective intake and exhaust valve assembly seats.



1	Low-pressure exhaust valve assembly
2	Copper gasket (4 rqr)
3	Cylinder block
4	High-pressure exhaust valve assembly
5	Nut, hex, 7/16–20 (20 rqr)
6	Stud (6 rqr)
7	Copper gasket (3 rqr)
8	High-pressure intake valve assembly
9	Low-pressure intake valve assembly

Figure 19. Valves and gaskets, removal points.



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1 Gasket, 1¼ in. id x 1½ in. od x 1/16 in. (4 rqr)
2 Gasket 1⅛ in. id x 1½ in. od x 5/64 in. (3rqr)
3 Screw, No. 10–32 x ⅜
4 Washer, lock, ⅜ in.
5 Seat, intake valve
6 Disk
7 Spring
8 Cage, intake valve
9 Seat, exhaust valve
10 Spring
11 Cage, exhaust valve
12 Valve Assembly, discharge
13 Valve Assembly, inlet

Figure 20. Valves and gaskets, exploded view.

(5) Inspect the copper gaskets for distortion or imprints that will render the gaskets unserviceable.

(6) Replace all defective parts that cannot be repaired.

c. Reassembly and Installation.

(1) Position the low-pressure intake spring (7), the low-pressure intake disk (6), and the low-pressure intake seat (5) on the low-pressure intake valve cage (8) and secure with the lockwasher (4) and the screw (3).

Caution: **Be sure to seat the large diameter of the spring in the cage in all valves.**

(2) Install the copper gasket and the low-pressure intake valve assembly (9, fig. 19) in the cylinder block (3).

(3) Reassemble and install the high-pressure intake assembly in a similar manner.

(4) Position the low-pressure exhaust disk (6, fig. 20), the low-pressure exhaust spring (10), and the low-pressure exhaust cage (11) on the low-pressure exhaust valve seat (9) and secure with the lockwasher (4) and screw (3).

(5) Install the copper gasket (7, fig. 19) the low-pressure exhaust valve assembly (1), and the copper gasket (2) in the cylinder block (3).

(6) Reassemble and install the high-pressure exhaust valve assembly in the same manner.

(7) Install the intake and exhaust manifolds (par. 88).

92. Centrifugal Unloader

a. Removal and Disassembly.

(1) *Unloader housing valve assembly.*

(*a*) Remove the tube assemblies (par. 87).

(*b*) Remove 6 machine screws (9, fig. 14) from the unloader housing cover (10) and remove the cover, gasket, and release valve as an assembly. Discard the gasket.

(*c*) Remove the release valve plunger (16, fig. 21) from the release valve sleeve (6).

(*d*) Remove the release valve cap (1). Tilt the release valve body (4) and the compression helical spring (2), and the bearing ball (3) will drop out.

(*e*) Remove the body (4) from the unloader housing cover (19) and remove the gasket (5) from the body.

(*f*) Remove the breather (18), from the unloader housing cover (19) and press out the release valve plunger sleeve (6) from the cover.

(2) *Unloader weight assembly.*

(*a*) Remove the 2 lockwires (8) from the 2 control governor pins (9) and remove the pins from the spindle (10). This will release the 2 weights (21), spring sleeve (15), spring (14), and the flat washer (13) from the spindle.

(*b*) Remove the two bumper springs (22) from the weights.

(*c*) Remove the capscrew (12) and lockwasher (11) which secure the spindle (10) to the crankshaft and remove the spindle.

(*d*) Remove the baffle plate (7) from the housing.

b. Cleaning, Inspection, and Repair.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect the springs for evidence of loss of tension and set.

(3) Inspect the body for cracks, breaks, damaged threads, or other damage, and replace if defective.

(4) Inspect the plunger, sleeve, baffle plate, governor pin, spindle and weights for cracks, nicks, burs, wear, or other damage. Replace all damaged or worn parts.

(5) Inspect all hardware for breaks, cracks, bends, damaged threads, or for other damage. Replace all damaged hardware.

c. Reassembly and Installation.

(1) Install the baffle plate (7) in the housing.

(2) Install the spindle (10) on the crankshaft and secure with the capscrew (12) and lockwasher (11).

(3) Install the washer (13), spring (14), and sleeve (15) in the spindle.

(4) Install a bumper spring (22) in each weight (21). Install the weights on the spindle, and install the pins (9) and lockwires (8) in the weights and spindle.

(5) Install the sleeve (6) in the cover (19).

(6) Install the gasket (5) on the body (4) and install the body in the cover.

(7) Insert the ball (3) and spring (2) into the body (4).

(8) Install the release valve cap (1) on the body. Tighten the cap securely to prevent any leakage of air.

(9) Install the plunger (16) in the sleeve (6).

(10) Install a new gasket (17) on the housing cover (19) and secure with six machine screws (20).

(11) Install the breather (18) in the housing cover.

(12) Install the tube assemblies (par. 87).

93. Unloader Valve (Used on Model LP-512-ENG)

a. Removal. Remove the pipe nipple from the unloader valve (5, fig. 2).

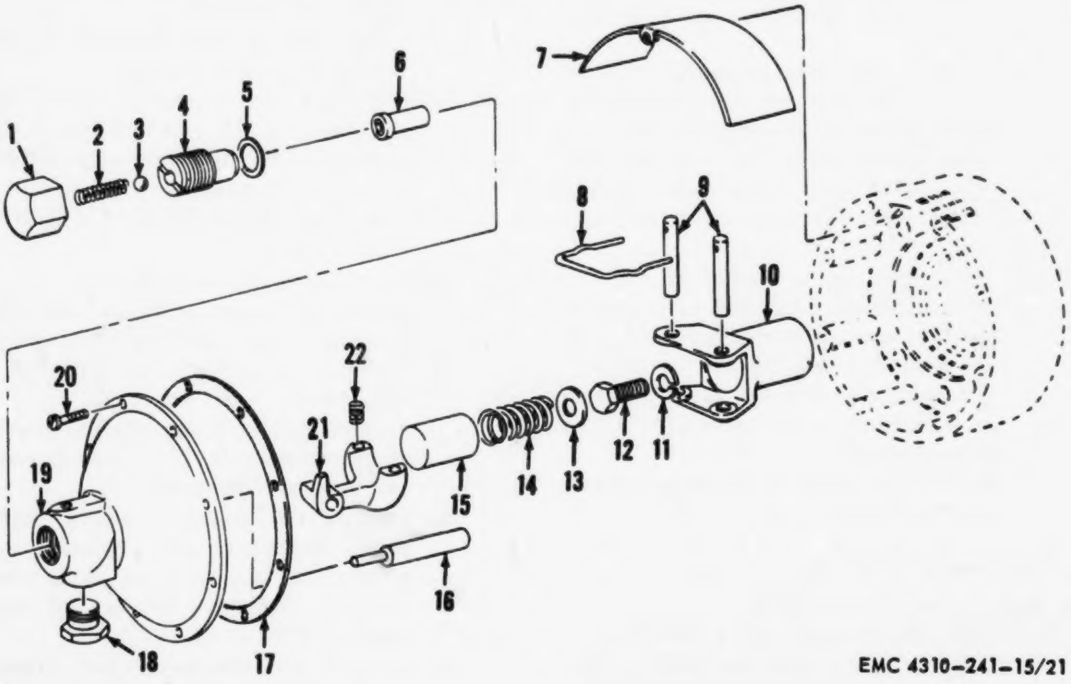
b. Cleaning, Inspection, Repair.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, and worn surfaces.

(3) Replace any defective parts.

c. Installation. Install the pipe nipple in the unloader valve (5, fig. 2).



1	Cap, release valve
2	Spring, helical, compression
3	Ball, bearing, release valve
4	Body, release valve
5	Gasket, copper, 9/16 in. od x 7/16 in. id x 3/64
6	Sleeve, release valve plunger
7	Plate, baffle
8	Lockwire (2 rqr)
9	Pin, (2 rqr)
10	Spindle
11	Washer, lock, 7/16 x 3/4 in.
12	Screw, cap, hex, 7/16-20 x 1 in.
13	Washer, flat, 7/8 in. od x 3/8 in. id x 1/16
14	Spring
15	Sleeve spring
16	Plunger, release valve
17	Gasket
18	Breather
19	Cover, housing
20	Screw, machine, No. 10-32 x 5/8 in. (6 rqr)
21	Weight (2 rqr)
22	Spring, bumper (2 rqr)

Figure 21. Centrifugal unloader, exploded view.

94. Safety Relief Valves

a. Removal (Model OEH-34-60-ENG-1).

(1) Turn off the outside power source.

(2) Release all air from the compressor by opening the draincock.

(3) Remove the safety relief valve (4, fig. 22) from the bushing (5).

(4) Remove the bushing (5) from the air receiver tank (9).

b. Removal (Model LP-512-ENG).

(1) Stop the engine.

(2) Release all air from the compressor by opening the draincock (3, fig. 2).

(3) Remove the safety relief valve (3, fig. 1) from the bushing.

(4) Remove the bushing from the high pressure exhaust manifold (3, fig. 15).

c. Cleaning and Inspection.

(1) Wipe off the safety relief valve with an approved cleaning solvent, and dry thoroughly. Wash the pipe bushing with an approved cleaning solvent.

(2) Inspect the safety relief valve for cracks. The safety relief valve is set to release at approximately 200 psi. Replace a defective safety relief valve. Inspect the pipe bushing for worn or damaged threads. Replace a defective bushing.

d. Installation (Model LP-512-ENG).

(1) Install the bushing in the high-pressure exhaust manifold (3, fig. 15).

(2) Install the safety relief valve (3, fig. 1) in the bushing.

e. Installation (Model OEH-34-60-ENG-1).

(1) Install the bushing (5, fig. 22) in the air receiver tank (9).

(2) Install the safety relief valve (4) in the bushing.

95. Intercooler Safety Valve (Used on Model OEH-34-60-ENG-1)

a. Removal. Remove the intercooler safety valve (3, fig. 3) from the high-pressure intake manifold (4) by turning the valve counterclockwise.

b. Cleaning and Inspection. Wash the intercooler safety valve with an approved cleaning solvent. Inspect for cracks in the body of the valve. Inspect the threads for wear or damage. Replace a defective intercooler relief valve.

c. Installation. Install the intercooler safety valve (3) in the high-pressure intake manifold (4) by turning the valve clockwise.

96. Check Valve Assemblies

a. Removal (Model OEH-34-60-ENG-1).

(1) Remove the safety relief valve (par. 94).

(2) Remove the aftercooler (par. 90).

(3) Remove the check valve (8, fig. 22) from the pipe nipple and remove the elbow (10) from the check valve.

(4) Remove the check valve nipple from the pipe tee (6) and remove the tee from the nipple in the air receiver tank (9).

(5) Remove the nipple from the tank.

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect for rust, cracks, and torn threads.

(3) Replace any defective parts.

c. Installation (Model OEH-34-60-ENG-1).

(1) Install the pipe nipple in the air receiver tank (9, fig. 22).

(2) Install the tee (6) on the nipple.

(3) Install the check valve nipple in the pipe tee.

(4) Install the elbow (10) in the check valve (8) and install the check valve on the pipe nipple.

(5) Install the aftercooler (par. 90).

(6) Install the safety relief valve (par. 94).

97. Air Pressure Gage

a. Removal.

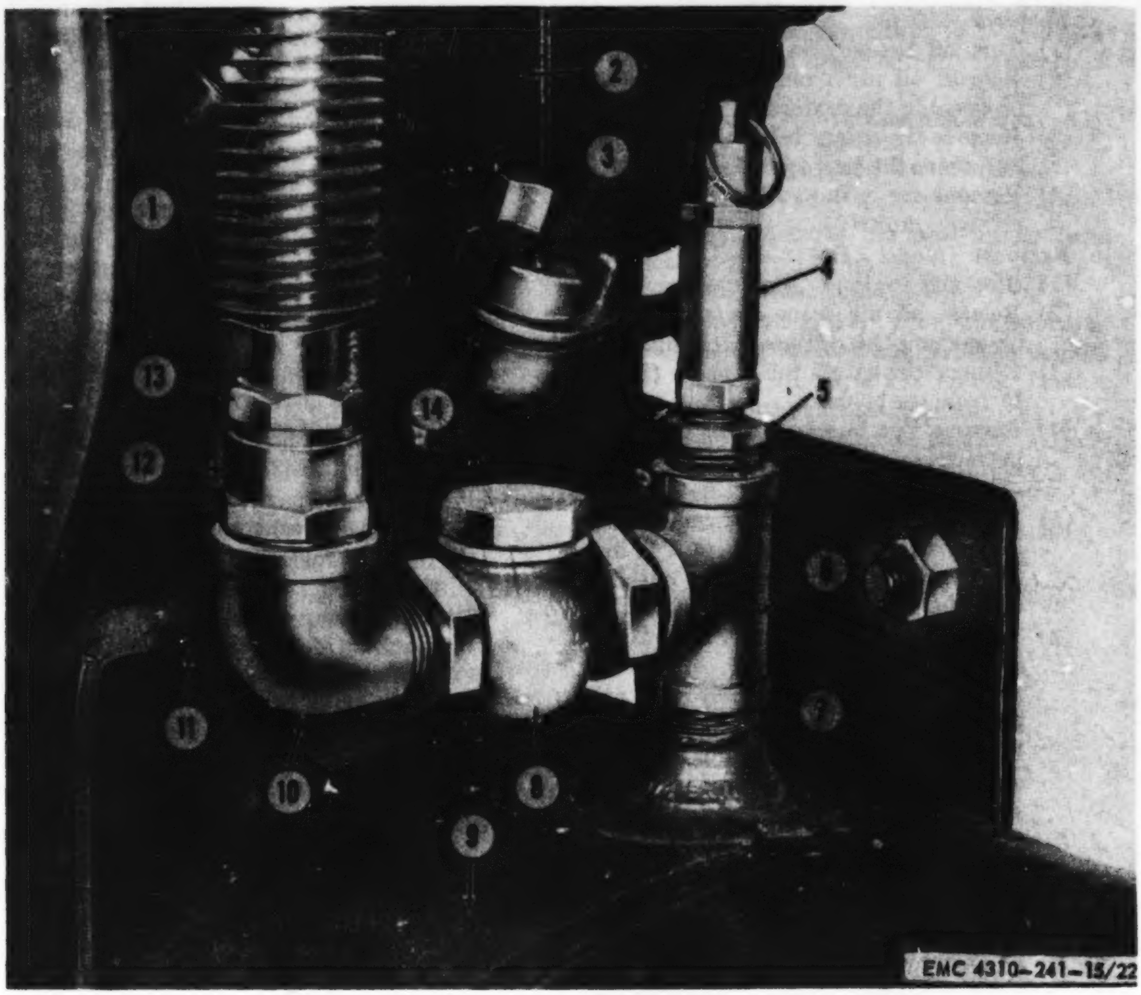
(1) Turn off the outside power source or stop the engine.

(2) Release all air from the compressor by opening the draincock.

(3) Release the air pressure gage (6, fig. 2) from the pipe bushing. Remove the bushing from the air receiver tank.

b. Cleaning and Inspection.

(1) Clean all metal parts with an approved cleaning solvent and dry thoroughly. Clean the glass on the gage with solvent and dry with a lint-free cloth.



1 Aftercooler
2 Compressor crankcase side plate
3 Oil filler cap
4 Safety relief valve
5 Bushing, pipe, ⅜ x ¼ in.
6 Tee, pipe, ⅜ x ¼ in.
7 Nipple, close, ½ x ⅛ in.
8 Check valve
9 Air Receiver tank
10 Elbow, 90°
11 Air receiver tank platform
12 Adapter, ¾ 16
13 Nut, compression, ¾-16
14 Gasket

Figure 22. Check valve assembly and safety relief valve, removal points.

(2) Inspect metal parts for cracks, rust, or damaged threads. Inspect the glass for cracks.

(3) Replace any defective part.

c. Installation.

(1) Install the pipe bushing in the air receiver tank.

(2) Install the air pressure gage (6) in the pipe bushing.

98. Side Plates

a. Removal.

(1) Turn off the outside power source or stop the engine.

(2) Release all air from the compressor by opening the draincock.

(3) Remove the oil filler cap and gasket (par. 84).

(4) Remove the drain cap and nipple (par. 100).

(5) Remove the 10 capscrews (31, fig. 14) that secure the front and rear side plates (30) to the compressor crankcase. Remove the side plates and gaskets.

b. Cleaning and Inspection.

(1) Clean with an approved cleaning solvent and dry thoroughly.

(2) Inspect for cracks, breaks, or damaged threads.

(3) Replace any defective parts.

c. Installation.

(1) Install the front and rear side plates (30) and new gaskets on the compressor crankcase and secure the plates with the 10 capscrews (31).

(2) Install the drain cap and nipple (par. 100).

(3) Install the oil filler cap and gasket (par. 84).

99. Air Hose Assembly and Inflator Gage

a. Removal.

(1) Close the globe valve (par. 101).

(2) Loosen the coupling nut (8, fig. 8) that secures the inflator gage (9) to the air hose (1) and remove the inflator gage.

(3) Loosen the coupling nut (2) that secures the air hose to the adapter (3) and remove the hose.

(4) Remove the adapter from the pipe bushing (4) in the globe valve (5).

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect the tubing and gage for cracks and breaks.

(3) Inspect the fittings for stripped threads.

(4) Replace the air hose assembly or gage if defective.

c. Installation. Install the air hose and inflator gage (par. 10).

100. Drain Cap and Nipple

a. Removal.

(1) Remove the oil filler cap and gasket (par. 84).

(2) Turn off the outside power source or stop the engine.

(3) Release all air from the compressor by opening the draincock.

(4) Remove the drain cap (15, fig. 14) from the oil drain nipple (16) and drain the oil from the crankcase. Remove the nipple (16) from the crankcase.

b. Cleaning and Inspection.

(1) Clean all parts in an approved cleaning solvent, and dry thoroughly.

(2) Inspect the cap and nipple for dents and damaged threads. Replace any defective parts.

c. Installation.

(1) Install the nipple (16) in the compressor crankcase and install the drain cap (15). Fill the compressor crankcase in accordance with the current lubrication order.

(2) Install the oil filler cap and gasket (par. 84).

101. Globe Valve

a. Removal.

(1) Turn off the outside power source or stop the engine.

(2) Release all air from the compressor by opening the draincock.

(3) Remove the air hose assembly and inflator gage (par. 99).

(4) Remove the pipe bushing (4, fig. 8) from the globe valve (5) and remove the valve from the pipe nipple (6).

(5) Remove the nipple from the air receiver tank (7).

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent, and dry thoroughly.

(2) Inspect bushing, valve, and nipple for cracks, breaks, or damaged threads.

(3) Replace any defective parts.

c. Installation. Install the globe valve and fittings as outlined in paragraph 10.

102. Draincock

a. Removal.

(1) Turn off the outside power source or stop the engine.

(2) Release all air from the compressor by opening the draincock.

(3) Remove the draincock from the air receiver tank.

b. Cleaning and Inspection.

(1) Clean the draincock with an approved cleaning solvent and dry thoroughly.

(2) Inspect for corrosion, cracks, and defective threads.

(3) Replace a defective draincock.

c. Installation. Install the draincock in the air receiver tank.

103. Oil Level Gage

a. Removal.

(1) Remove the drain cap and nipple (par. 100).

(2) Remove the front compressor crankcase side plate (par. 98).

(3) Drive the oil level gage from the crankcase, using a round piece of wood the same diameter as the oil level gage.

Note. Do not remove the oil level gage unless the gage is leaking or defective.

b. Cleaning and Inspection. Inspect the oil level gage for cracks, breaks, or other defects. Replace the oil level gage if defective.

c. Installation.

(1) Coat the outer edges of the oil level gage with a light coat of sealing compound; turn the oil level gage so that when it is positioned in the crankcase the line of the gage runs parallel to the bottom of the crankcase.

(2) Install the front compressor crankcase side plate (par. 98).

(3) Install the drain cap and nipple (par. 100).

104. Air Receiver Tank

a. Removal (Model LP–512–ENG).

(1) Remove the aftercooler tube (par. 90).

(2) Remove the air pressure gage (par. 97).

(3) Remove the unloader valve (par. 93).

(4) Remove the draincock (par. 102).

(5) Remove the capscrews (5, B, fig. 17), nuts, washers, and remove the air receiver tank (9).

b. Removal, (Model OEH–34–60–ENG–1).

(1) Remove the pressure switch tube (par. 71).

(2) Remove the magnetic starter with pressure switch and cover (par. 70).

(3) Remove the electric motor (par. 65).

(4) Remove the air pressure gage (par. 97).

(5) Remove the globe valve (par. 101).

(6) Remove the safety relief valve (par. 94).

(7) Remove the air compressor (par. 67).

(8) Remove the check valve assembly (par. 96).

(9) Remove the draincock (par. 102).

c. Cleaning, Inspection, and Testing.

(1) Clean the interior of the air tank with live steam if available, or with any approved solvent. Dry thoroughly.

(2) Inspect the interior and the exterior of the tank for cracks, broken welds, dents, or corrosion. Check all threaded surfaces for damaged threads.

(3) Inspect the air receiver tank for safe operation by performing a hydrostatic pressure test in the following manner:

(*a*) Install plugs in all but one opening of the tank.

(*b*) Fill the tank full of water.

(*c*) Install a fitting, that is equipped with a coupling, and an air pressure gage, of at least 200 psi capacity, in the opening through which the water was poured into the tank. Put a 200 psi air pressure into the fitting and test the tank.

Caution: **Do not exceed 200 psi pressure in the tank.**

(*d*) Drain the water from the tank and dry thoroughly.

d. Installation (Model OEH–34–60–ENG–1).

(1) Install the draincock (par. 102).

(2) Install the check valve assembly (par. 96).

(3) Install the air compressor (par. 67).
(4) Install the safety relief valve (par. 94).
(5) Install the globe valve (par. 101).
(6) Install the air pressure gage (par. 97).
(7) Install the electric motor (par. 65).
(8) Install the magnetic starter with pressure switch and cover (par. 70).
(9) Install the pressure switch tube (par. 71).

e. Install (Model LP–512–ENG).

(1) Install the air receiver tank by attaching the capscrews (5, fig. 17), nuts, and washers to brackets on hand truck assembly.
(2) Install the draincock (par. 102).
(3) Install the air pressure gage (par. 97).
(4) Install the unloader valve (par. 93).
(5) Install the aftercooler tube (par. 90).

Section VIII. WHEELS AND TIRES

105. Removal

a. Remove key (12, fig. 23) and washer (11).

b. Remove nut (9), and bolt (13) and remove wheel assembly.

c. Remove nut (6), washer (5) and bolt (4).

d. Remove plate (2) and plate (3).

e. Remove tire (7) and tube (8).

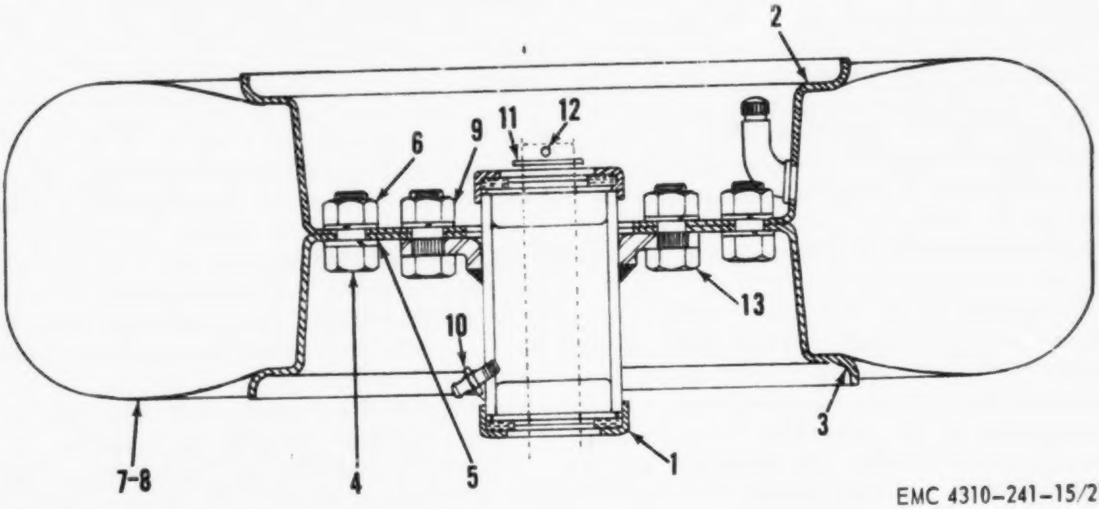
106. Installation

a. Install plate (2) and plate (3) on tire (7) and tube (8).

b. Install bolt (4), washer (5) and nut (6).

c. Install wheel assembly and tighten nut (9) on bolt (13).

d. Install washer (11) and key (12).



EMC 4310-241-15/23

1 Hub assembly
2 Plate, side
3 Plate, side
4 Bolt, ⅜-24 x ⅝ (12 rqr)
5 Washer, lock, ⅜ (32 rqr)
6 Nut, ⅜ (12 rqr)
7 Tire (2 rqr)
8 Tube (2 rqr)
9 Nut, ⅜ (8 rqr)
10 Fitting, lub.
11 Washer
12 Key
13 Bolt (8 rqr)

Figure 23. Wheel assembly.

CHAPTER 4

FIELD AND DEPOT MAINTENANCE INSTRUCTION

Section I. OVERHAUL AND REPLACEMENT STANDARDS

107. Maintenance Data

Table II lists the manufacturer's sizes, tolerances, clearances, and the maximum allowable wear and clearance for the air compressor.

Table II. Compressor Repair and Replacement Standards

	Manufacturer's dimensions and tolerances in inches		Desired clearance		Maximum allowable wear and clearance
	Min.	Max.	Min.	Max.	
Cylinders					
Bore, low-pressure	3.2495	3.2505	------	------	0.004
Bore, High-pressure	1.7495	1.7505	------	------	0.002
Out-of-round	------	------	------	------	0.001
Taper	------	------	------	------	0.001
Crankshaft					
Journal (rod) size	1.375	1.376			
Taper	------	------	------	------	0.001
Out-of-round	------	------	------	------	0.0005
End play	------	------	0.000	0.002	
Pistons and Pins					
Piston, Low-pressure	3.2455	3.2465	0.003	0.005	0.005
Piston, High-pressure	1.747	1.748	0.0015	0.0035	0.003
Pin, low-pressure	0.9375	0.9377	0.0001	0.0005	
Pin, high-pressure	0.750	0.7505	0.0001	0.0005	
Bearings, Connecting Rod					
Bearing, id	1.353	1.357	0.0001	0.007	
Bearing, side clearance	------	------	0.010	0.017	

108. Special Tools and Equipment

No special tools are needed to perform field and depot maintenance on these air compressors. No special equipment is needed to perform the field and depot maintenance on these air compressors.

Section II. AIR COMPRESSOR ASSEMBLY

109. General

The compressor assembly on Model OEH–34–60–ENG–1 and Model LP–512–ENG is a two-stage, two-cylinder, air cooled unit. There is one low-and one high-pressure piston operating off the crankshaft. The crankshaft is supported at either end by ball bearings.

110. Pistons, Piston Rings, Connecting Rods and Cylinder Block

a. Removal and Disassembly.

(1) Remove the tube assemblies (par. 97).

(2) Disconnect the intercooler and the aftercooler from the manifolds (pars. 89 and 90).

(3) Remove the side plates (par. 98).

(4) Remove theair cleaner (par. 85).

(5) Revolve the crankshaft (13, fig. 24) until the connecting rod nuts (8) are accessible through the side of the compressor crankcase.

(6) Remove the 4 nuts (8) lockwashers (7) 1 oil scoop (11), 2 lower half bearings (10), and the 4 brass shims (5)

from the 4 connecting rod bolts (15) and 19, fig. 25).

Caution: **Mark the connecting rod from which the shims and caps were removed, and reassemble the shims and caps on the same rod. Do not intermix the connecting rods and caps.**

(7) Remove the nut from the high-pressure intake manifold and remove the V-belt guard bracket from the manifold stud.

(8) Remove the 6 hex nuts (5, fig. 19) that secure the cylinder block to the studs (6). Lift the cylinder block, with the pistons and connecting rods in it, from the compressor crankcase.

(9) Place the cylinder block on its side and pull the assembled high-pressure piston and connecting rod from the cylinder block.

(10) Remove the upper half sleeve bearing (17, fig. 25) from the connecting rod (18), and remove 2 connecting rod bolts (19) from the connecting rod. Expand the piston rings (24 and 25) on the high-pressure piston (23) and work the rings from the ring groove of the piston, moving the rings from the piston.

Note. Mark connecting rod and piston to assure correct relationship at reassembly.

(11) Remove the 2 retaining rings (21) that secure the piston pin (22) in the high-pressure piston. Drive out the piston pin and remove the connecting rod (18) from the piston.

(12) Pull the assembled low-pressure piston (28) and connecting rod (14) from the cylinder block.

(13) Remove the upper half sleeve bearing (13) from the connecting rod (14) and remove the two connecting rod bolts (15) from the connecting rod.

(14) Remove the oil slinger (7) from the bearing cap (6) of the low-pressure piston connecting rod. Expand the piston rings (26 and 27) on the low-pressure piston and work the rings from the ring groove of the piston, moving the rings from the piston.

(15) Remove the 2 retaining rings (30) that secure the piston pin (29) in the low-pressure piston. Drive out the piston pin and remove the connecting rod from the piston.

Note. Do not remove the connecting rod bushings unless inspection reveals them defective.

(16) Use a suitable bushing driver and drive the piston pin bushings (16 and 20) from the high and low-pressure connecting rods (18 and 14).

(17) Remove the intake and exhausé valves (par. 91).

b. Cleaning and Inspection.

(1) Clean all parts in an approved cleaning solvent and dry thoroughly.

(2) Inspect the cylinder block for broken cooling fins and cracks. Inspect the cylinder bores for wear, scoring, pitting, or other damage. Replace the block if defective.

(3) Measure the clearance of the piston pin to the piston bushing. Check for proper fit. Aline or replace connecting rods, if necessary.

(4) Place the piston rings in the cylinder bore with the piston ring square in the cylinder bore about ½ inch from the top.

(5) If the ring gap is less than the specified width, file across the butt ends of the rings to increase the gap to the required tolerance. If the ring gap is greater than required, replace the entire set of rings.

(6) Measure the ring groove in the pistons for wear. Replace pistons, if necessary.

c. Reassembly and Installation.

(1) Install the intake and exhaust valves (par. 91).

(2) If the piston pin bushings (16 and 20) were removed from the connecting rods, press the piston pin bushings in the high-pressure and low-pressure connecting rods (18 and 14).

Note. If the bushings are not prefit, ream the bushings.

(3) Position the high-pressure piston (23) on the connecting rod (18) and start the piston pin (22) in the piston. Drive the pin through the bushing in the connecting rod and lock the pin in

the piston with the retaining rings (21).

(4) Position the low-pressure piston (28) on the connecting rod (14) and start the piston pin (29) in the piston. Drive the pin through the bushing in the connecting rod and lock the pin in the piston with the retaining rings, (30).

(5) Expand the piston rings sufficiently to allow the rings to slide freely over the piston to the proper position.

(6) Install piston rings (26, 27, 24, and 25) in their proper groove on the low- and high-pressure pistons (28 and 23), starting with the bottom ring until all rings are replaced in order. Space ring gaps so that they are not lined up.

(7) Lubricate each piston and connecting rod assembly with a light coat of engine oil. Compress the piston rings on each piston and slide the assembled pistons and connecting rods in the proper bore of the cylinder block. Install the connecting rod bolts (15 and 19) in the connecting rods (14 and 18)

(8) Install the six studs (6, fig. 19) in the crankcase (1, fig. 24).

(9) Position a new cylinder flange gasket on the studs in the crankcase and install the cylinder block in place on the crankcase. Secure with the 6 nuts (5, fig. 19). Tighten to 45 foot-pounds torque.

(10) Install the upper half sleeve bearings (13 and 17, fig. 25) in the high-and low-pressure connecting rods (14 and 18). Pull the rods and bearings down on the crankshaft and install the shims (5) on the bolts (15 and 19).

(11) Install the oil slinger (7) in the bearing cap of (6) of the low-pressure piston connecting rod.

(12) Position the sleeve bearings (10, fig. 24) in the lower half sleeve bearings caps (6 and 22) and install the caps on the connecting rod bolts (15 and 19, fig. 25).

(13) Install the oil scoop (11, fig. 24) on the high-pressure piston and secure the lower half sleeve bearing caps (6 and 12) and oil scoop with lockwashers (7) and hex nuts (8). Tighten the nuts to 25 foot-pounds torque.

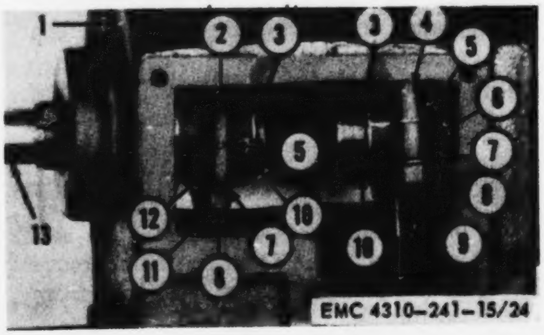
(14) If the connecting rod is loose, remove a shim and reassemble the cap to the rod. Repeat the process until a 0.002-inch clearance is obtained between the sleeve bearings in the connecting rods.

(15) Install the air cleaner (par. 85).

(16) Install the side plates (par. 98).

(17) Install the aftercooler (par. 90) and the intercooler in the manifolds (pars. 89 and 90).

(18) Install the tube assemblies (par. 87).



1	Crankcase
2	High-pressure connecting rod
3	Upper half sleeve bearing (2 rqr)
4	Low-pressure connecting rod
5	Laminated brass shim (4 rqr)
6	Lower half sleeve bearing cap
7	Washer, lock, ⅜ in. (4 rqr)
8	Nut, ⅜-24 (4 rqr)
9	Oil slinger
10	Lower half sleeve bearing (2 rqr)
11	Oil scoop
12	Lower half sleeve bearing cap
13	Crankshaft

Figure 24. Crankshaft and connecting rods, removal points.

111. Crankshaft

a. Removal.

(1) Remove the release valve unloader tube (par. 87).

(2) Remove the crankcase breather tube (par. 87).

(3) Remove the unloader assembly (par. 92).

(4) Remove the side plates (par. 98).

(5) Remove the crankshaft flywheel (par. 86).

(6) Remove bearing caps (par. 110). Push the connecting rods and pistons up to the top of the cylinder bore.

(7) Remove the 4 capscrews (1, fig. 26) that secure the unloader housing (4) to the crankcase.

b. Disassembly.

(1) Drive the crankshaft (3), bearings (2), and unloader housing (4) from the crankcase (5).

Caution: **Before driving the crankshaft from the crankcase, be sure the connecting rod journals are in an upright position.**

(2) Use a suitable puller and remove the unloader housing and ball bearing from the shaft. Remove the gasket.

(3) Press the bearing (2) from the housing.

(4) Position the crankshaft (3) in a suitable press and remove the remaining ball bearing (2) from the shaft.

(5) Remove the encased oil seal (1, fig. 25) from the crankcase.

c. Cleaning, Inspection, and Repair.

(1) Clean all parts in an approved cleaning solvent and dry thoroughly.

(2) Inspect the crankshaft for cracks, scores, and distortion. Measure the crackshaft bearing journals for wear. If the connecting rod journals measure 0.005 inch out-of-round, replace the crankshaft.

(3) Inspect the ball bearings for rough, pitted, or scored bearings. Replace a defective bearing.

d. Reassembly.

(1) Install the encased oil seal (1) in the crankcase (1, fig. 24).

(2) Press the ball bearing (2, fig. 26) on the crankshaft (3). Press the other bearing (2) in the unloader housing (4) and press the bearing and housing on the shaft.

(3) Install a new gasket on the housing.

e. Installation.

(1) Install the assembled crankshaft, gasket, and housing in the crankcase and secure the housing with four capscrews (1).

(2) Position the pistons and connecting rods on the crankshaft and secure with the bearing caps (par. 110).

(3) Install the crankshaft flywheel (par. 86).

(4) Install the side plates (par. 98).

(5) Install the unloader assembly (par. 92).

(6) Install the crankcase breather tube (par. 87).

(7) Install the release valve unloader tube (par. 87).

112. Crankcase

a. Removal.

(1) Remove the pistons, connecting rods, and cylinder block (par. 110).

(2) Remove the crankshaft (par. 111).

(3) Remove the four bolts, lockwashers, flat washers, and nuts that secure the crankcase (1, fig. 24), to the air receiver tank platform (6, fig. 3). Remove the crankcase.

(4) Remove the oil level gage (par. 103).

b. Cleaning, Inspection, and Repair.

(1) Clean the crankcase with live steam, if available, or an approved cleaning solvent and dry thoroughly.

(2) Inspect the crankcase for cracks, breaks, or other defects. Replace the crankcase if defective.

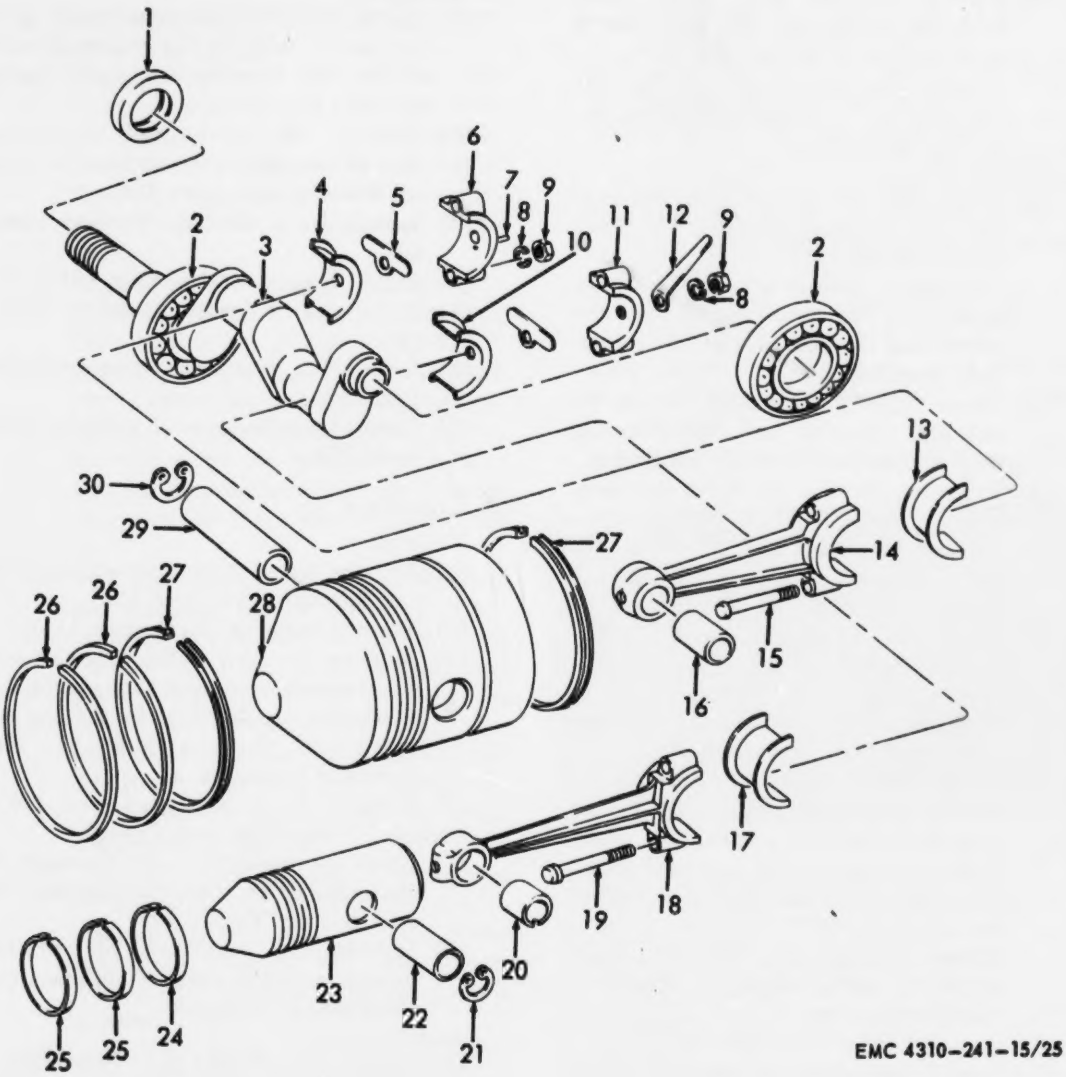
c. Installation.

(1) Install the oil level gage (par. 103).

(2) Position the crankcase (1, fig. 24) on the air receiver tank platform (6, fig. 3) and secure with the four bolts, lockwashers, flat washers, and nuts.

(3) Install the crankshaft (par. 111).

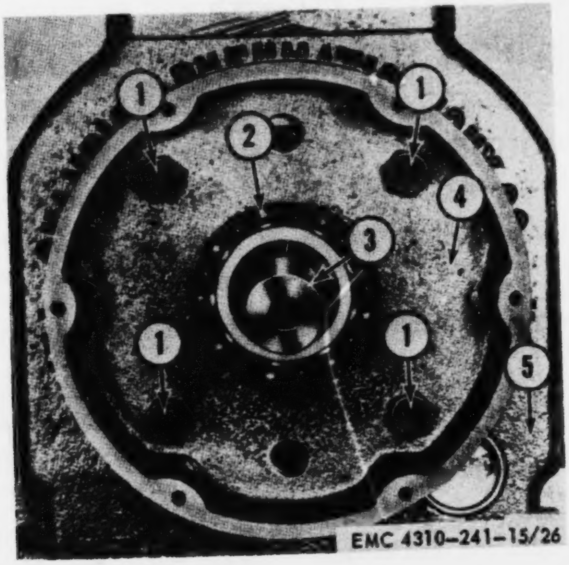
(4) Install the pistons, connecting rods, and cylinder block (par. 110).



EMC 4310-241-15/25

1 Oil seal
2 Bearing, main, crankshaft
3 Crankshaft
4 Bearing, lower sleeve
5 Shim, brass (4 rqr)
6 Cap, bearing, low-pressure
7 Oil slinger
8 Washer, lock, ⅜ in. id x ⅝ in. od
9 Nut, heavy, ⅜-24
10 Bearing, lower sleeve
11 Cap, bearing, high-pressure
12 Oil scoop
13 Bearing, upper half sleeve
14 Rod, connecting, low-pressure
15 Bolt, connecting rod, ⅜-24 x 2⅛ in.
16 Bushing, piston pin
17 Bearing, upper half sleeve
18 Rod, connecting, high-pressure
19 Bolt, connecting rod, ⅜-24 x 2⅛ in.
20 Bushing, piston pin
21 Ring, high-pressure, retaining
22 Pin, piston, high-pressure
23 Piston, high-pressure
24 Ring, piston, oil, high-pressure
25 Ring, piston, compression (2 rqr)
26 Ring, piston, compression (2 rqr)
27 Ring, piston, oil, low-pressure (2 rqr)
28 Piston, low-pressure
29 Pin, piston, low-pressure
30 Ring, low-pressure retaining (2 rqr)

Figure 25. Pistons, connecting rods, and crankshaft, exploded view.



EMC 4310-241-15/26

1 Screw, cap, hex, ⅜-16 x 1 in. (4 rqr)
2 Bearing, ball (2 rqr)
3 Crankshaft
4 Unloader housing
5 Crankcase

Figure 26. Unloader housing, removal points.

CHAPTER 5

DEMOLITION, SHIPMENT, AND LIMITED STORAGE

Section I. DEMOLITION OF AIR COMPRESSOR TO PREVENT ENEMY USE

113. General

When capture or abandoment of the air compressor to an enemy is imminent, the responsible unit commander must make the decision either to destroy the equipment or render it inoperative. Based on this decision orders are issued which cover the desired extent of destruction. Whatever method of demolition is employed, it is essential to destroy the same vital parts of all the air compressors and all corresponding repair parts.

114. Demolition To Render the Equipment Inoperative

a. Demolition By Misuse.

(1) Remove the air intake cleaner.
(2) Drain the oil from the crankcase.
(3) Throw sand and dirt in the crankcase and air intake manifolds.
(4) Run the unit until it fails.

b. Demolition by Mechanical Means. Use sledge hammers, crowbars, picks, axes, or other heavy tools to damage the electric motor, starter switch, engine, air cleaner, hose, gage, cylinder block, air tubing, intercooler and aftercooler manifolds, drive belts, and valves.

115. Demolition by Explosives or Weapon's Fire (Fig. 27)

a. Demolition by Explosives. Place the following charges and detonate them simultaneously with a detonating cord and a suitable detonator. Refer to figure 27.

(1) *Model LP–512–ENG.*
  (*a*) Two ½-pound charges between engine and hand truck.
  (*b*) One ½-pound charge on compressor.
  (*c*) One ½-pound charge between compressor and air tank.
  (*d*) One ½-pound charge between enengine and fuel tank.
(2) *Model OEH–34–60–ENG–1.*
  (*a*) One ½-pound charge on compres
  (*b*) Two ½-pound charges on electric motor.
  (*c*) One ½-pound charge between motor and tank.
  (*d*) One ½-pound charge between compressor and tank.

b. Demolition by Weapon's Fire. Fire on the air compressor with the heaviest practicable weapons available.

116. Other Demolition Methods

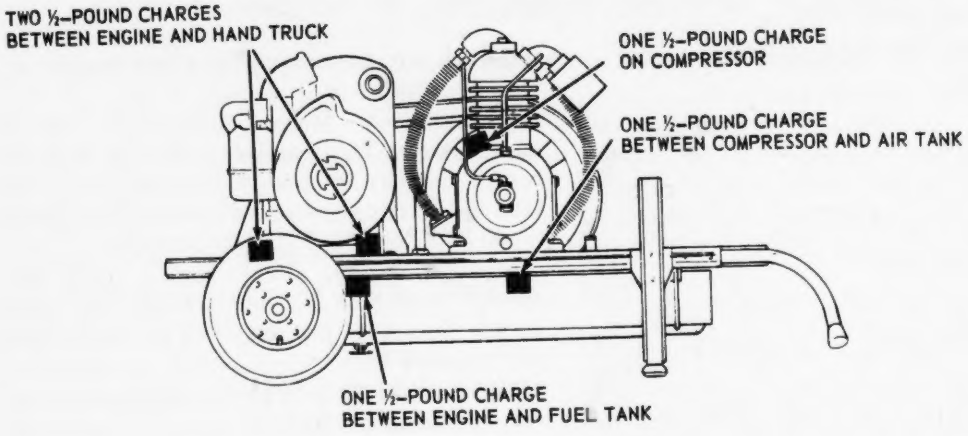
a. Scattering and Concealment. Remove all easily accessible parts such as air cleaners, air hose assembly, draincock, globe valve, safety valves, and starter switch. Scatter them in foilage, bury them in dirt or sand, or throw them in a lake, stream, well, or other body of water.

b. Burning. Pack rags, clothing, or canvas around the air ompressor. Pour gasoline, oil, or diesel fuel over this material and ignite.

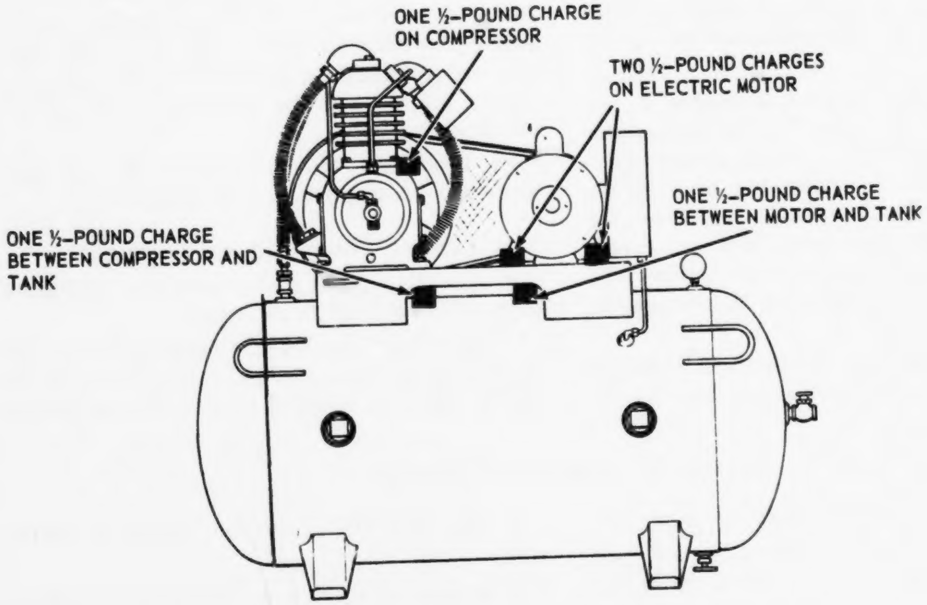
c. Submission. Totally submerge the air compressor in a body of water to provide water damage and concealment. Salt water will do greater damage than fresh water.

117. Training

All operators should receive thorough training in the destruction of the compressor. Refer to FM 5–25. Simulated destruction, using all of the methods listed above, should be included in the operator training program. It must be emphasized in training that demolition operations are usually necessitated by critical situations when time available for carrying out destruction is limited. For this reason it is necessary that operators be thoroughly familiar with all methods of destructions without reference to this or any other manual.


TWO ½-POUND CHARGES BETWEEN ENGINE AND HAND TRUCK
ONE ½-POUND CHARGE ON COMPRESSOR
ONE ½-POUND CHARGE BETWEEN COMPRESSOR AND AIR TANK
ONE ½-POUND CHARGE BETWEEN ENGINE AND FUEL TANK

MODEL LP-512-ENG


ONE ½-POUND CHARGE ON COMPRESSOR
TWO ½-POUND CHARGES ON ELECTRIC MOTOR
ONE ½-POUND CHARGE BETWEEN MOTOR AND TANK
ONE ½-POUND CHARGE BETWEEN COMPRESSOR AND TANK

MODEL OEH-34-60-ENG-1

LEGEND: ■ ½-POUND CHARGE

EMC 4310-241-15/27

Figure 27. Placement of charges.

Section II. SHIPMENT WITHIN ZONE OF INTERIOR

118. Preparation of Equipment for Shipment

a. General. Detailed instructions for the preparation of Engineer equipment for domestic shipment are outlined within this paragraph. Preservation will be accomplished in sequence that will not require the operation of previously preserved components.

b. Inspection. Inspect compressors for any unusual conditions such as damage, rusting, accumulation of water, and missing components. DA Form 2404 (Equipment Inspection and Maintenance Worksheet) will be executed on the equipment.

c. Cleaning and Drying. Thoroughly clean and dry the compressors and components by the most applicable approved method. Approved preservatives and methods of cleaning, drying, and application of preservatives are described in TM 38–230.

d. Painting. Repaint all surfaces from which the paint has been removed or damaged. Refer to TM ENG 60 for detailed treatment and painting instructions.

e. Depreservation Guide. Annotate a DA Form 2258, (Depreservation Guide or Engineer Equipment) concurrently with the preservation of each compressor. Outline any peculiar requirements in blocks 27 through 33. Place the completed depreservation guide in a waterproof envelope marked "Depreservation Guide" and secure in a conspicuous location on or near the operator's controls.

f. Sealing of Opening. Seal all openings that will permit direct entry of water into the interior of the compressor, gasoline engine, or electric motor.

g. Fuel Tank. Model LP–512–ENG. Drain the fuel tank. Drain and clean the fuel strainer bowl. Fog the interior of the fuel tank with type P–10 engine preservative oil conforming to grade 2 of Specification MIL–L–21260.

h. Air Cleaners. Drain and/or clean air cleaners on engine and/or compressor as applicable. Seal openings that will permit direct entry of water.

i. Pneumatic Tires. Inflate tires to their normal operating pressure.

j. Air Tanks. Fog the interior of the air tank with type P–10 engine preservative oil conforming to Specification MIL–L–21260. Leave drains open.

k. Disassembly. Remove air hose and globe valve.

l. Packing. Pack disassembles components, basic issue items, and publications in a suitable container and secure to the compressor or the base of the packing crate. Pack the compressor and components in a suitable box or crate. Refer to TM 38–230 for guidance in container construction.

m. Marking. Mark compressors and containers in accordance with MIL–STD–129.

119. Loading Equipment for Shipment

a. Handling. The compressor may be loaded with either a forklift or hoist.

b. Blocking. Secure the compressor on the carrier with blocks wedged tightly against the base or skid and fastened securely to the carrier.

Section III. LIMITED STORAGE

120. Preparation of Equipment for Storage

a. General. Detailed instructions for preserving and maintaining equipment in limited storage are outlined in these paragraph. Limited storage is defined as storage not to exceed 6 months. Refer to AR 743–505.

b. Inspection. Refer to paragraph 118*b*.

c. Cleaning and Drying. Refer to paragraph 118*c*.

d. Painting. Refer to paragraph 118*d*.

e. Depreservation Guide. Refer to paragraph 118*e*.

f. Sealing of Openings. Refer to paragraph 118*f*.

g. Fuel Tank. Refer to paragraph 118*g*.

h. Air Cleaners. Refer to paragraph 118*h*.

j. Pneumatic Tires.

(1) When compressors are to be stored over 90 days.

(*a*) Block the compressor in a manner to remove all weight from tires.

(*b*) Deflate tires on compressors, that are blocked up, to two-thirds normal pressure.

(2) Inflate tires on compressors, that are standing in storage without being blocked up, to normal pressure.

j. Air Tanks. Refer to paragraph 118*j*.

k. Disassembly. Remove items subject to damage or pilferage.

l. Packing. Pack disassembled components, basic issue items, and publications in a suitable container and place with the compressor.

m. Weatherproofing.

(1) Store the compressor under cover if space is available.

(2) When outdoor storage is necessary—

(*a*) Store the compressor on the most suitable hardstanding or natural ground surface available.

(*b*) Cover the compressor with a tarpaulin or other suitable waterproof covering and tie down securely.

121. Inspection and Maintenance of Equipment in Storage

a. Inspection. Perform a monthly inspection while the equipment is in storage. Inspect for evidence of physical damage such as pilferage, leakage of lubricants, or rusting from accumulation of water.

b. Maintenance. Perform preventive maintenance as specified in paragraph 45 every 90 days.

c. Operation. Every 90 days start the compressor and operate it until the pressure switch on Model OEH–34–60–ENG–1 shuts off the unit (par. 28). Operate Model LP–512–ENG until unloader valve opens; then shut off the unit (par. 28). Drain all air from the compressor before returning it to storage. After each exercising period the compressor will be represerved.

APPENDIX I
REFERENCES

1. Dictionaries of Terms and Abbreviations

AR 320–5	Dictionary of United States Army Terms.
AR 320–50	Authorized Abbreviations and Brevity Codes.

2. Field Maintenance

TM 5–764	Electric Motor and Generator Repair.

3. Fire Protection

TM 5–687	Repair and Utilities: Fire Protection Equipment and Appliances; Inspections, Operations, and Preventive Maintenance.
TM 9–1799	Ordnance Maintenance: Fire Extinguishers.

4. Lubrication

LO 5–4310–241–15	Compressor Reciprocating: Air; 5 CFM; 175 PSI; Hand Truck Mounted; Gasoline Driven (Champion Pneumatic Model LP–512–ENG) and Compressor Reciprocating: Air; 5 CFM; 175 PSI; Receiver Mounted Electric Driven (Champion Pneumatic Model OEH–34–60–ENG–1).
LO 5–2805–206–14	Engine, Gasoline: Military Standard, 1½ HP, Models 1A08–1 and 1A08–2. Engine, Gasoline: Military Standard, 3 HP, Models 2A016–1 and 2A016–2.

5. Operator, Organizational, and Field Maintenance

TM 5–2805–206–14	Engine, Gasoline, Military Standard Models: (Model 1A08–1) 1½ HP, FSN 2805–601–5181; (Model 1A08–2) 1½ HP, FSN 2805–714–8552; (Model 2A016–1) 3 HP, FSN 2805–601–5127; (Model 2A016–2) 3 HP, FSN 2805–714–8553.

6. Painting and Preservation

TB ENG 60	Preservation and Painting of Serviceable Corps of Engineers Equipment.

7. Preventive Maintenance

AR 750–5	Organization, Policies and Responsibilities for Maintenance Operation.
TM 5–505	Maintenance of Engineer Equipment.
TM 9–1870–1	Care and Maintenance of Pneumatic Tires.
TM 38–750	The Army Equipment Record System and Procedures.

8. Publication Indexes

DA Pam 108–1	Index of Army Motion Pictures, Film Strips, Slides, and Phono-Recordings.
DA Pam 310–1	Index of Administrative Publications.

DA Pam 310–2	Index of Blank Forms.
DA Pam 310–3	Index of Training Publications.
DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders.
DA Pam 310–5	Index of Graphic Training Aids and Devices.
DA Pam 310–25	Index of Supply Manuals—Corps of Engineers.

9. Shipment and Limited Storage

AR 743–505	Limited Storage of Corps of Engineers Mechanical Equipment.
TM 38–230	Preservation, Packaging, and Packing of Military Supplies and Equipment.

10. Supply Publications

SM 10–1–C4–1	Petroleum, Petroleum-Base Products, and Related Material.
TM 5–2805–206–14P	Operator, Organizational, and Field Maintenance Repair Parts and Special Tools Lists. Engine, Gasoline, Military Standard Models: (Model 1A08–1) 1½ HP, FSN 2805–601–5181; (Model 1A08–2) 1½ HP, FSN 2805–714–8552; (Model 2A016–1) 3 HP, FSN 2805–601–5127; (Model 2A016–2) 3 HP, FSN 2805–714–8553.
TM 5–4310–241–25P	Organizational, Field, and Depot Maintenance Repair Parts and Special Tool Lists. Compressor, Reciprocating: Air; 5 CFM; 175 PSI; Hand Truck Mounted; Gasoline Driven (Champion Pneumatic Model LP–512–ENG) Less Engine FSN 4310–861–9820; Receiver Mounted; Electric Driven; (Champion Pneumatic Model OEH–34–60–ENG–1) FSN 4310–861–9823.

11. Training Aids

FM 5–25	Explosives and Demolitions.
FM 21–5	Military Training.
FM 21–6	Techniques of Military Instruction.
FM 21–30	Military Symbols.

APPENDIX II
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

1. General

This appendix maintenance and repair functions authorized the various echelons. Section II contains the Maintenance Allocation Chart (MAC).

2. Maintenance

Maintenance is any action taken to keep material in a serviceable condition or to restore it to serviceability when it is unserviceable. Maintenance of material includes the following:

a. Service. To clean, preserve, and replenish fuel and lubricants.

b. *Adjust.* To regulate periodically to prevent malfunction.

c. Inspect. To verify serviceability and detect incipient electrical or mechanical failure by scrutiny.

d. Test. To verify serviceability and detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, and the like.

e. Replace. To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

f. Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes, but is not limited to, inspecting, cleaning, preserving, adjusting, replacing, welding, riveting, and straightening.

g. Aline. To adjust two or more components of an electrical system so that their functions are properly synchronized.

h. Calibrate. To determine, check, or rectify the graduation of an instrument, weapon, or weapons system, or components of a weapons system.

i. Overhaul. To restore an item to completely serviceable condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "Inspect and Repair Only as Necessary" (IROAN). Maximum utilization of diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.

3. Explanation of Columns

a. Functional Group. The functional group is a numerical group set up on a functional basis. The applicable Functional Grouping Indexes (obtained from the Corps of Engineers Functional Grouping Indexes) are listed on the MAC in the appropriate numerical sequence. These indexes are normally set up in accordance with their function and proximity to each other.

b. Components and Related Operation. This column contains the Functional Grouping Index heading, subgroup headings, and a brief description of the part, starting with the noun name. It also designates the operations to be performed such as service, adjust, inspect, test, replace, repair, and overhaul.

c. Echelons of Maintenance. This column contains the various echelons of maintenance by number designation. An X placed in the appropriate echelon column in line with an indicated maintenance function authorizes that echelon to perform the function. The X indicates the lowest echelon responsible for performing the function, but does not necessarily indicate repair parts stockage at that level. Higher echelons are authorized to perform the indicated functions of lower echelons.

d. Remarks. This column lists specific maintenance functions, special tools, cross-references instructions, and the like pertinent to the operation being performed.

Section II. MAINTENANCE ALLOCATION CHART

Functional group	Components and related operation	Echelons of maintenance					Remarks
		1	2	3	4	5	
01	ENGINE						
0100	ENGINE ASSEMBLY						
	Engine, Gasoline						
	Service	X	--	--	--	--	TM 5-2805-206-14.
	Inspect	X	--	--	--	--	Do.
	Test	--	X	--	--	--	Do.
	Replace	--	X				
	Repair	--	X	--	--	--	Do.
	Overhaul	--	--	--	--	X	Do.
0102	CRANKSHAFT						
	Pulley, Crankshaft						
	Replace	--	X	--	--	--	Mdl LP-512-ENG.
03	FUEL SYSTEM						
0306	TANKS, LINES						
	Tank, Fuel						
	Service	X	--	--	--	--	Mdl LP-512-ENG only.
	Line Assembly, Fuel						
	Replace	--	X	--	--	--	Do.
	Strainer, Fuel Tank						
	Service	X	--	--	--	--	Do.
	Replace	--	X				
04	EXHAUST SYSTEM						
0401	MUFFLER						
	Muffler						
	Replace	--	X	--	--	--	Do.
10	FRONT AXLE						
	FRONT AXLE ASSEMBLY						
	Axle						
	Replace	--	X				
	Bracket						
	Replace	--	X				
13	WHEELS						
1311	WHEEL ASSEMBLY						
	Wheel Assembly						
	Service	X	--	--	--	--	Do.
	Replace	--	X				
	Repair	--	X				
1313	TIRES, TUBES						
	Tires and Tubes						
	Service	X	--	--	--	--	Do.
	Inspect	X					
	Replace	--	X				
15	FRAME						
1501	FRAME ASSEMBLY						
	Hand Truck Assembly						
	Inspect	X	--	--	--	--	Do.
22	MISCELLANEOUS BODY, HULL, AND ACCESSORY ITEMS						
2210	DATA PLATES						
	Plate, Instruction, Name						
	Replace	--	X				
	Plate, Data (COE)						
	Replace	--	--	X			
26	ACCESSORIES, PUBLICATIONS						
2602	ACCESSORIES						
	Hose Assembly						
	Replace	--	X				

Functional group	Components and related operation	Echelons of maintenance 1	2	3	4	5	Remarks
40	ELECTRIC MOTORS						
4000	MOTOR						
	Motor, Electric						
	Service	X	--	--	--	--	MARATHON 2 hp.
	Replace	--	X				
	Repair	--	--	X	--	--	Mdl OEH-34-60-ENG-1 only.
4001	ROTOR ASSEMBLIES						
	Rotor Assembly						
	Replace	--	--	X	--	--	Do.
	Repair	--	--	--	X		
4002	STATOR ASSEMBLIES						
	Frame and Stator						
	Replace	--	--	--	X	--	Do.
4004	VENTILATING SYSTEM						
	Baffles						
	Replace	--	--	X	--	--	Do.
4005	FRAME SUPPORTS AND HOUSINGS						
	Bearings						
	Replace	--	--	X	--	--	Do.
	Brackets; Commutator End						
	Replace	--	--	X	--	--	Do.
4007	DRIVE COMPONENTS						
	Pulley						
	Replace	--	X	--	--	--	Do.
4010	MASTER OR AUXILIARY CONTROL ASSEMBLY						
	Starter, Magnetic						
	Replace	--	X	--	--	--	Do.
	Repair	--	X				Do.
	Heater, Thermal						
	Replace	--	X	--	--	--	Do.
	Switch, Pressure						
	Adjust	--	X	--	--	--	Do.
	Replace	--	X				
	Tube, Pressure Switch to Tank						
	Replace	--	X	--	--	--	Do.
47	GAGES						
4702	GAGES						
	Gages, Pressure						
	Replace	--	X	--	--	--	Do.
50	PNEUMATIC EQUIPMENT						
5000	AIR COMPRESSOR ASSEMBLY						
	Compressor, Air						
	Service	X					
	Inspect	X					
	Replace	--	X				
	Repair	--	--	X			
	Overhaul	--	--	--	X		
5001	BLOCK						
	Block, Cylinder						
	Replace	--	--	X			
	Repair	--	--	X			
	Window Observation						
	Replace	--	--	X			
5002	CRANKSHAFT						
	Crankshaft						
	Replace	--	--	X			
	Bearings						
	Replace	--	--	X			

Functional group	Components and related operation	Echelons of maintenance 1	2	3	4	5	Remarks
	Seals, Oil						
	Replace	--	--	X			
5004	PISTON, CONNECTING RODS						
	Piston Assembly						
	Replace	--	--	X			
	Repair	--	--	X			
	Rod Assembly, Connecting						
	Adjust	--	--	X			
	Repair	--	--	X			
5005	VALVES						
	Valve Assembly, Intake Discharge						
	Replace	--	X				
	Repair	--	X				
5007	COMPRESSOR DRIVE						
	Belt, V						
	Adjust	--	X				
	Replace	--	X				
5008	AIR INTAKE						
	Filter Assembly, Air						
	Service	X					
5009	UNLOADER SYSTEM COMPONENTS						
	Valves, Relief						
	Replace	--	X				
	Springs						
	Replace	--	X				
	Valve Assembly, Unloader						
	Adjust	--	X				
	Replace	--	X				
	Repair	--	X				
	Tube Assembly Vent						
	Replace	--	X	--	--	--	Fabricate.
5010	COMPRESSOR COOLING						
	Tube, Intercooler, Aftercooler						
	Replace	--	X				
5014	AIR RECEIVER						
	Receiver, Air						
	Service	X					
	Test	--	--	--	X		
	Valve, Check						
	Replace	--	X				
	Valve, Safety (Tank Pressure)						
	Adjust	--	--	--	X		
	Replace	--	X				
5015	AIR DISCHARGE SYSTEM						
	Valve, Globe						
	Replace	--	X	--	--	--	Mdl OEH-34-60-ENG-1 only.
	Adapter, Air Discharge						
	Replace	--	X				
76	FIRE FIGHTING EQUIPMENT						
7603	FIRE EXTINGUISHERS						
	Extinguisher, Fire						
	Replace	X					

APPENDIX III

BASIC ISSUE ITEMS LIST AND MAINTENANCE AND OPERATING SUPPLIES

Section I. INTRODUCTION

1. General

Section II lists the accessories, tools, and publications required in 1st echelon maintenance and operation, initially issued with, or authorized for, the air compressor.

Section III lists the maintenance and operating supplies required for initial operation.

2. Explanation of Columns Contained in Section II

a. Source Codes. The information provided in each column is as follows:

(1) *Technical service.* This column lists the basic number (or symbol) of the technical service assigned supply responsibility for the part. Those spaces left blank denote Corps of Engineers supply responsibility. General Engineer supply parts are identified by the letters GE in parentheses, following the nomenclature in the description column. Technical services basic numbers used in this manual are:

10	Quartermaster Corps
12	Adjutant General's Corps

(2) *Source.* The selection status and source of supply for each part are indicated by one of the following code symbols:

(*a*) P–applied to high-mortality repair parts which are stocked in, or supplied from, the technical service depot system and authorized for use at indicated maintenance echelons.

(*b*) P1–applied to repair parts which are low-mortality parts, stocked in or supplied from, technical service depots and authorized for installation at indicated maintenance exhelons.

(*c*) M–applied to repair parts which are not procured or stocked but are to be manufactured at indicated maintenance echelons.

(*d*) X2–applied to repair parts which are not stocked. The indicated maintenance echelon requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.

(3) *Maintenance.* The lowest maintenance echelon authorized to use, stock, install, or manufacture the part is indicated by the following code symbol:

O — Organizational Maintenance (1st and 2d echelon).

(4) *Recoverability.* Repair parts and/or tool and equipment items that are recoverable are indicated by one of the following code symbols:

(*a*) R–applied to repair parts and assemblies which are economically repairable at field maintenance facilities (3d and 4th echelons) and are normally furnished by supply on an exchange basis.

(*b*) T–applied to high-dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts are normally repaired or overhauled at depot maintenance facilities.

(*c*) U–applied to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical meterials, high-dollar value reusable casings, castings, and the like.

Note. When no code is shown in the recoverability column the part is considered expendable.

b. Federal Stock Numbers. This column lists the 11–digit Federal stock number used for requisitioning purposes.

c. Description.

(1) The item name and a brief description of the part are shown.

(2) A 5-digit Federal supply code for manufacturers and/or other technical services is shown in parentheses followed by the manufacturer's number. This number shall be used for requisitioning purposes when no Federal Stock Number is indicated. *Example:* (08645) 86453

(3) The letters "GE", shown in parentheses immediately following the description, indicate General Engineer supply responsibility for the part.

d. Unit of Issue. Where no abbreviation is shown in this column, the unit of issue is "each".

e. Quantity Authorized. This column lists the quantities of repair parts, accessories, tools, or publications authorized for issue to the equipment operator or crew as required.

f. Quantity Issued with Equipment. This column lists the quantity of repair parts, tools, or publications that are initially issued with each item of equipment. Those indicated by an asterisk are to be requisitioned through normal supply channels are required.

g. Illustrations.

(1) *Figure number.* Provides the identifying number of the illustration.

(2) *Item number.* Provides the referenced number for the parts shown in the illustration.

3. Federal Supply Code for Maintenance

11568—Champion Pneumatic Machinery Co.
94894—Milton Manufacturing Co., Inc.

4. Explanation of Columns Contained in Section III

a. Item. This column contains numerical sequenced item numbers, assigned to each component application, to facilitate reference.

b. Component Application. This column identifies the component application of each maintenance or operating supply item.

c. Source of Supply. This column lists the basic number of the technical service assigned supply responsibility for the item. Those spaces left blank denote Corps of Engineers supply responsibility. Technical Service basic number used in this manual is:

10—Quartermaster Corps

d. Federal Stock Numbers. This column lists the 11-digit Federal stock number used for requisitioning purposes.

e. Description. The item name and a brief description are shown.

f. Quantity Required for Initial Operation. This column lists the quantity of each maintenance or operating supply item required for initial operation of the equipment.

g. Quantity Required for 8 Hours Operation. This column lists the quantity required for 8 hours operation.

h. Notes. This column contains informative notes keyed to data appearing in the preceding columns.

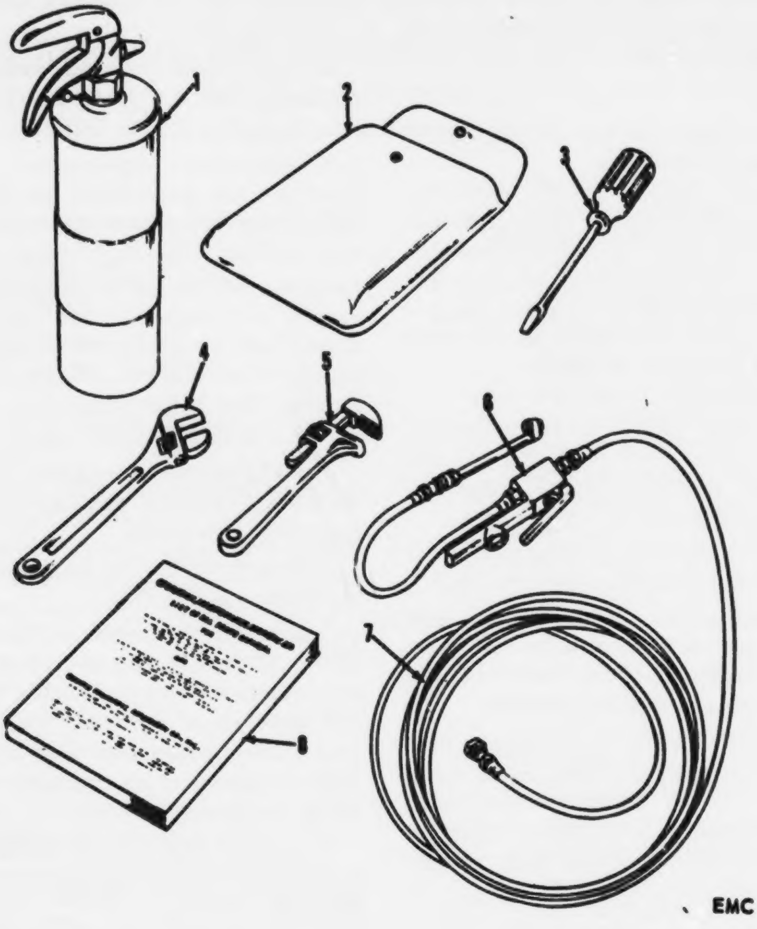
5. Comments and Suggestions

Suggestions and recommendations for changes to the Basic Issue Items List and/or Maintenance and Operating Supplies Table shall be submitted on DA Form 2028 to the Commanding Officer, U. S. Army Mobility Support Center, ATTN: SMOMS–MS, P. O. Box 119, Columbus 16, Ohio. Direct communication is authorized.

Section II. BASIC ISSUE ITEMS

1. General

This section lists the accessories, tools, and publications required for 1st echelon maintenance and operation, initially issued with, or authorized for, the air compressor.



1 Fire extinguisher
2 Case, publications
3 Screwdriver
4 Wrench, open end, adjustable 8 in. long
5 Wrench, pipe, adjustable 6 in. long
6 Gage, inflator
7 Hose
8 Manual

Figure 28. Basic issue items.

BASIC ISSUE ITEMS LIST

Source codes				Federal stock number	Description	Unit of issue	Expendability	Quantity authorized	Quantity issued with equipment	Illustration	
Technical service	Source	Maintenance	Recoverability							Figure	Item
					GROUP 26—ACCESSORIES, PUBLICATIONS AND TOOLS						
					2606—ACCESSORIES						
10	P	0	--	7520-559-9618	CASE, OPERATIONS AND MAINTENANCE PUBLICATIONS: cotton duck water repellant, mildew resistant.	----	----	1	1	28	2

Source codes				Federal stock number	Description	Unit of issue	Expendability	Quantity authorized	Quantity issued with equipment	Illustration	
Technical service	Source	Maintenance	Recoverability							Figure	Item
					2603—COMMON TOOLS						
10	P	0	--	5120-277-9491	SCREWDRIVER, FLAT TIP: wood handle; flared tip, ¼ in. w; 4 in. lg blade.	----	----	1	(*)	28	3
10	P	0	--	5120-240-5328	WRENCH, OPEN END, ADJUSTABLE: single head, 15/16 in. jaw opening; 8 in. lg.	----	----	1	(*)	28	4
10	P	0	--	5120-277-1485	WRENCH, PIPE: adjustable, ¼ to 1 in. pipe; 10 in. lg.	----	----	1	(*)	28	5
					2605—PUBLICATIONS						
12	--	--	--	-------------	DEPARTMENT OF THE ARMY OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL TM 5-4310-241-15.	----	----	2	2	28	8
12	--	--	--	-------------	DEPARTMENT OF THE ARMY ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOL LISTS TM 5-4310-241-25P.	----	----	2	2		
12	--	--	--	-------------	DEPARTMENT OF THE ARMY OPERATOR, ORGANIZATIONAL, AND FIELD MAINTENANCE MANUAL TM 5-2805-206-14 (MODEL LP-512-ENG).	----	----	2	2		
12	--	--	--	-------------	DEPARTMENT OF THE ARMY OPERATOR, ORGANIZATIONAL, AND FIELD MAINTENANCE REPAIR PARTS AND SPECIAL TOOL LISTS TM 5-2805-206-14P (MODEL LP-512-ENG).	----	----	2	2		
12	--	--	--	-------------	DEPARTMENT OF THE ARMY LUBRICATION ORDER LO 5-4310-241-15.	----	----	1	1		
12	--	--	--	-------------	DEPARTMENT OF THE ARMY LUBRICATION ORDER LO 5-2805-206-14 (MODEL LP-512-ENG).	----	----	1	1		
					GROUP 50—PNEUMATIC EQUIPMENT						
					5015—AIR DISCHARGE SYSTEM						
	P1	0	--	4910-030-2365	GAGE, INFLATOR, AIR: GG-G91A type 3, class A, type 2 (94894) G506.	----	----	1	1	28	6
	P1	0	--	4310-873-1767	HOSE, AIR: with couplings 5/16 in. dia. 25 ft lg (11568) Z-538 (Model LP-512-ENG).	----	----	1	1		
	P1	0	--	4310-874-3179	HOSE, AIR: with couplings 5/16 in. dia. 50 ft lg (11568) Z-538A (Model OEH-34-60-ENG-1).	----	----	1	1	28	7

Source codes				Federal stock number	Description	Unit of issue	Expendability	Quantity authorized	Quantity issued with equipment	Illustration	
Technical service	Source	Maintenance	Recoverability							Figure	Item
					GROUP 76—FIRE FIGHTING EQUIPMENT 7603—FIRE EXTINGUISHERS						
	P1	0	--	4210-693-1092	EXTINGUISHER, FIRE, DRY TYPE: charged; hand; 2½ lbs (GE).	----	----	1	1	28	1

Section III. MAINTENANCE AND OPERATING SUPPLIES

Item	Component application	Source of supply	Federal stock number	Description	Quantity required for initial operation	Quantity required for 8 hours operation	Notes
1	0101—CRANKCASE (1)			OIL, LUBRICATING 1-qt Sealed cans as follows:			(1) Includes quantity of oil to fill engine oil system as follows:
		10	9150-265-9433	OE-30	⅝ qt (1)	(3)	crankcase ½ qt.
		10	9150-265-9425	OE-10	⅝ qt (1)	(3)	air cleaner ⅛ qt.
		10	9150-242-7602	OES	⅝ qt (1)	(3)	(2) Use oil as prescribed in item 1 above.
2	0304—AIR CLEANER (2)			OIL, LUBRICATING (2)			(3) See LO 5-2805-206-14 for grade application and replenishment intervals.
3	0306—TANK			FUEL, GASOLINE: 5-gal can as follows:			
		10	9130-160-1817	Gasoline, automotive combat	5.2 qt (4)	2.28 gal (5)	(4) Tank capacity.
4	1311—WHEELS	10	9150-190-0904	GREASE, AUTOMOTIVE AND ARTILLERY: 1 lb can.		(6)	(5) Average fuel consumption is .285 gph of continuous operation.
5	5001—CRANKCASE			OIL, LUBRICATING: 5 gal drums as follows:			(6) See current LO for grade application and replenishment intervals.
		10	9150-235-5571	Grade 2075	1 qt (7)	(6)	(7) Compressor capacity.
		10	9150-223-4137	Grade 2110	1 qt (7)	(6)	
		10	9150-231-2190	Grade 2190	1 qt (7)	(6)	

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For explanation of abbreviations used, see AR 320–50.

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